

ABSTRACTS FROM

SPECIAL REPORT

ON

DISEASES OF THE HORSE

BY

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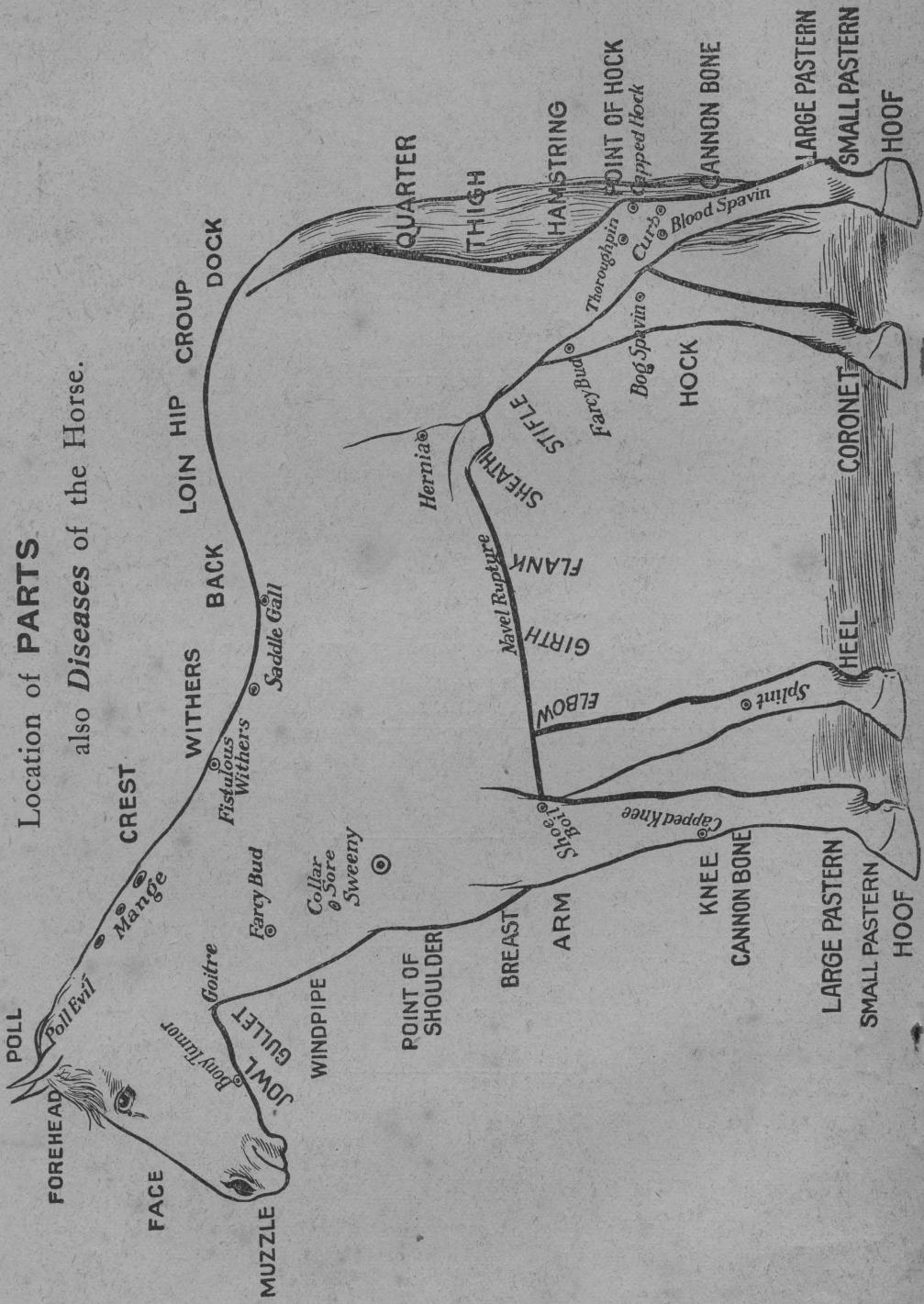
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U. S. DEPARTMENT OF AGRICULTURE
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Location of PARTS

also Diseases of the Horse.



I. THE EXAMINATION OF A SICK HORSE.

After LEONARD PEARSON, B. S. V. M. D., *State Veterinarian of Pennsylvania.*

History.—The cause of disease is important not only in connection with diagnosis, but also in connection with treatment. His food, work done and care received may explain his illness and suggest the remedy; thus damaged food, such as brewer's grains or mouldy silage, point to forage poisoning; sudden lameness in back and hind legs of a horse kept in stable on full rations suggest azoturia, and a horse recently shipped in cars or in dealer's hands and showing symptoms of fever, will probably develop influenza or pneumonia. It is also important to know whether there are other horses in the same stable or vicinity similarly affected, evidencing an epidemic; also what medicines or treatment, if any, have been given.

Attitude and General Condition. Sometimes characteristic positions indicate certain diseases. In lockjaw the muscles of jaw, neck and shoulder are rigid, with legs braced as though expecting to be pushed over; in pleurisy and peritonitis and some other painful diseases of internal organs the horse assumes an attitude as though seeking to avoid pressure upon the inflamed sensitive parts. Abnormal positions are assumed in colic, such as sitting on hind quarters like a dog, balancing on the back, etc., the purpose being to lessen the pressure and pain. Again, if the animal is wasted, in poor flesh; if the skin is tight and inelastic and the coat dry and harsh we have evidence of a low state of nutrition.

WHAT CONSTITUTES A GOOD HORSE CONSTITUTION?

The constitution depends largely upon the conformation. The type of construction that usually accompanies the best constitution is:

Deep, broad chest, allowing plenty of room for the lungs and heart, indicating that these vital organs are well developed;

Capacious abdomen (full round girth) allowing sufficient space for well-developed organs of digestion;

Short loins,—that is the space should be short between the last rib and point of hip;

Head and neck well moulded, without superfluous or useless tissue; this gives a clear-cut throat.

Ears, eyes and face should have an expression of alertness and good breeding.

Muscular development should be good; the shoulders, forearms, croup and thighs must have the appearance of strength.

Withers are sharp, which means that they are not loaded with useless, superfluous tissue.

Legs are straight and their axes parallel.

Knees and hocks are low, which means that the forearms and thighs are long, and the cannons relatively short.

Cannons are broad from in front to behind and relatively thin from side to side, which means that the bony and tendinous structures of the legs are well developed and well placed.

Hoofs are compact, tense firm structures and their soles are concave and frogs large.

Such a horse is liable to have a good constitution and to be able to resist hard work, fatigue and disease to a maximum degree. On the other hand a poor constitution is indicated by a shallow, narrow chest, small bones, long loins, coarse neck and head, with thick throat, small bony and muscular development, short thighs and forearms, small joints, long round cannons and hoofs of open texture with flat soles.

In judging the nature and severity of a horse's illness the temperament should be considered, whether lively or nervous, on one hand, or sluggish on the other.

Skin and Mucous Membrane. No part of the body loses its elasticity and tone as a result of disease sooner than the skin. Practical herdsmen and flockmasters judge primarily entirely by looking and feeling the skin over. Similarly the visible mucous membrane (inside the mouth, nose, eyelid or rectum) give reliable indication of conditions. If the mucous membrane of the eyelid or nostril looks pale, it indicates poverty of the blood, poor circulation; in fever there is an excessive redness as long as the fever lasts. Red spots or red streaks usually indicate infectious disease of serious nature. A yellowish discoloration of the mucous membrane may indicate derangement of the liver or influenza. In pneumonia or heart failure, when the blood is not freely oxidized by the lungs the mucous membrane is bluish.

The Pulse. The pulse may be counted and its strength or weakness ascertained by the fingers feeling wherever a large artery is close to the skin and above a bone or tendon. The most convenient

place is before it turns around the lower border of the jawbone. Press the fingers lightly on the skin over the artery and count the pulse with a watch in hand. The pulse should be regular and of equal fullness of volume.

HEALTHY HORSE'S NORMAL PULSE PER MINUTE.

Stallion, 28 to 33; 2 to 3 years, 40 to 50.

Gelding, 33 to 38; 6 to 12 months, 45 to 60.

Mare, 34 to 40; 2 to four weeks, 70 to 90.

Rich food, hot weather, exercise, excitement or alarm increase the pulse; and it is slightly more rapid in the evening than in the morning. Highly bred horses have more rapid pulse than cold blooded horses.

Slower or more rapid pulse than normal may both indicate disease. Slow pulse is caused by great exhaustion, excessive cold and also old age. It may be due to general nervous depression or the result of drugs, such as digitalis. A rapid pulse

accompanies fever, the more severe the infection and the weaker the heart the more rapid is the pulse, running up to 80, 90 and even 120 per minute; 100 or more is likely to be fatal, especially if accompanied by high temperature or late in an infectious disease.

Irregular pulse accompanies diseases of the heart. The examination of the heart is important in seeking to locate the horse's illness. Two sounds are heard by applying the left ear over the heavy muscles of the left shoulder back of the shoulder joint and above the point of the elbow. (The heart is left of the middle of the horse under the fifth rib and above the point of the elbow.) The first sound occurs while blood is being forced into the system, the valves being taut to prevent the return of the blood from the lower to the upper chambers. The second sound occurs during the rebound of blood in the arteries, being shorter, less distinct and of lower pitch than the first.

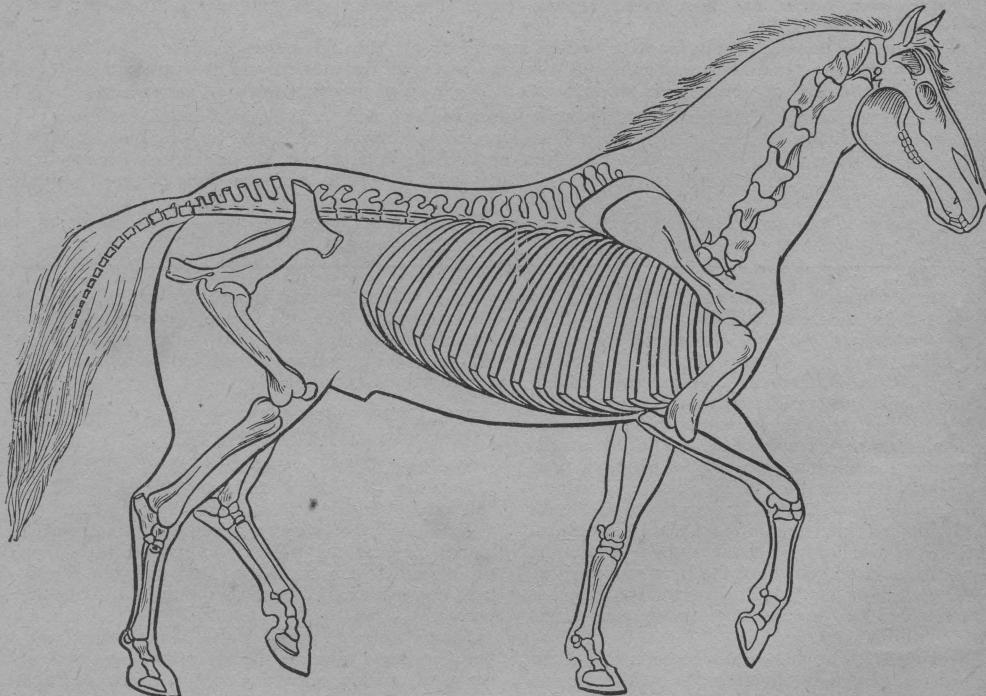
The Temperature. A horse's temperature may be determined approximately by placing the fingers in his mouth or between the thighs, or by letting him breathe against the back of the hand or upon the cheek. A high temperature will be manifest to anyone whose own temperature is normal. An ordinary physician's thermometer may be used, but a self-registering thermometer, five or six inches long, is used by veterinarians. This is placed in the rectum for a few minutes, then withdrawn and read.

A horse's normal temperature varies from 99½ to 101 degrees Fahrenheit. If the temperature rises to 102½, the horse is said to have a low fever; if it reaches 106 degrees it is high. A temperature

of 107½ degrees and above is very dangerous and must be reduced promptly if the horse is to be saved.

The Respiration. The normal rate of breathing for a healthy horse at rest is from eight to sixteen per minute; in younger animals faster than in older; and increased by work, hot weather, overfilling of the stomach, pregnancy, lying on the side, etc. Various forms of illness also cause increased respiration; fever, pneumonia (part of the lungs being filled up and the work done by the remainder), pain in the muscles of the chest as in rheumatism, excess of carbon-dioxide in the blood (from bad ventilation), and constriction of the air passages (as caused by tumors of the nose, or paralysis of the throat), fluid in the chest cavity, etc.

In normal health the expired breath is about the temperature of the body, contains considerable moisture, comes with equal force from both nostrils and has no offensive or unpleasant odor. If it comes principally from one nostril, there is probably an obstruction of the nasal passage. If the odor is bad, it may indicate an ulcerating tumor; the more offensive odors come from necrosis, or decay, of the bone, or gangrene of the lungs. If the discharge comes from but one nostril, it probably originates in the head. The color should be noted; slight nasal catarrh causes a thin watery discharge, as it gets more severe the discharge becomes thicker becoming sticky and puss-like. The discharge of glanders is of a peculiar sticky nature that adheres tenaciously to the wings of the nostrils. The discharge of pneumonia is red or reddish brown, sometimes called "prune juice" discharge. A discharge of frothy blood comes from the lungs. If ulcers, nodules, swellings or tumors are found in the nos-



The Skeleton of the Horse.

tril, particularly if the mucous membrane is anything but rosy pink, disease is very probable. Glanders is also evidenced by enlargement, hardening or ulceration of the glands between the lower jaw, which in the healthy horse is hard to locate.

A horse's cough like that of the human family, may indicate laryngitis, bronchitis or pneumonia; pleurisy causes a very painful cough, which the horse seems to try to repress. In heaves the cough is weak, as also in debilitated condition from any cause.

The examination of the chest of a horse, similar to that employed by physicians by thumping and placing the ear against the patient's breast or back, is also employed. It is called Percussion and Auscultation.

The Digestion. A healthy horse has a good appetite, but loss of appetite may come from various causes, including excitement, strange surroundings, fatigue and hot weather. In fever, extreme weakness, disorder of the stomach, cerebral depression (headache) and in mechanical difficulty in chewing and swallowing there is loss of appetite. The appetite to eat dirty bedding, roots of grass, soil, etc., is from a chronic disturbance of nutrition.

The animal's system demands some food or element which the appetite craves and seeks to supply in this way. Read about Security Stock Powder. It will explain this condition.

Some diseases of the mouth make it difficult for the horse to chew or swallow his food, notably diseases of the teeth, consisting of decay, fracture, abscess formation or overgrowth, lampas, foreign bodies in the upper part of the mouth or between the teeth, inflammation of the throat. Difficulty in swallowing is evidenced by "quidding," that

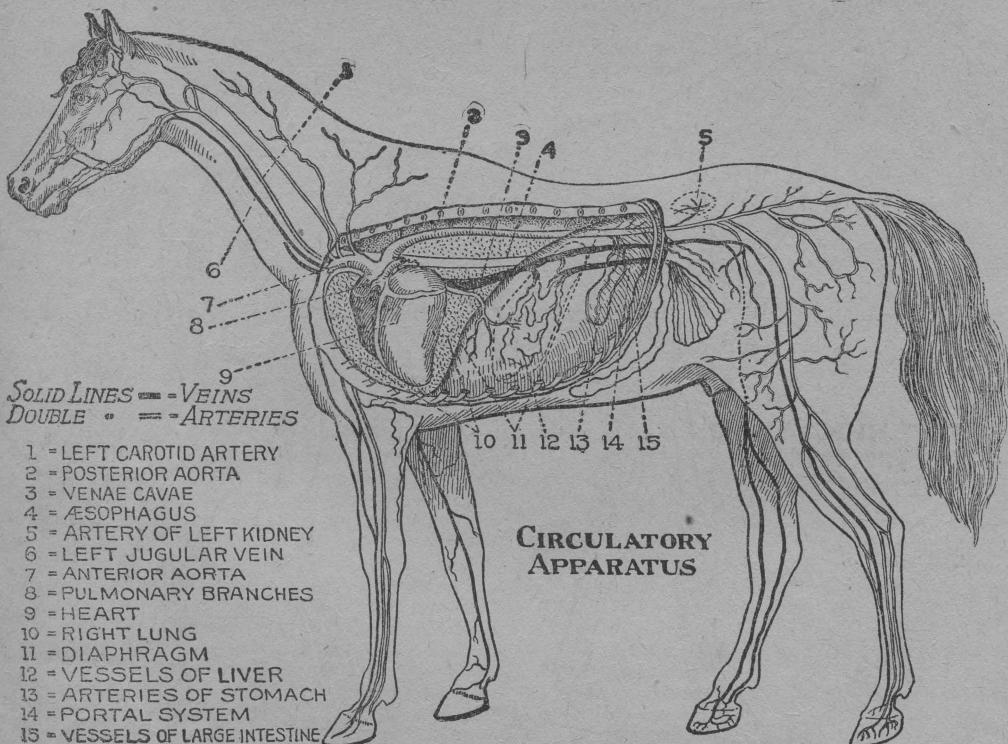
is, dropping a mouthful of food after it has been chewed and an attempt made to swallow it.

Brain disease is indicated by peculiar manner of taking food and swallowing; the horse sometimes stopping short as though forgetting what he was about.

In examination of these symptoms, besides what may be seen by a close inspection of the head, face and nostrils, the interior of the mouth may be examined by holding the head up and inserting the fingers through back of the teeth so as to cause the mouth to open. The examination of the pharynx and of the esophagus, (the throat and the wind pipe) is made chiefly by pressing upon the skin up and down the neck, over these organs. Although seldom, horses sometimes vomit and sometimes recover after vomiting. Vomiting is not a sign of rupture of the stomach; but sometimes precedes the rupture, which has led to the popular fallacy that only a horse with a ruptured stomach could vomit.

A pendulous abdomen, variously spoken of as "hay belly or "pot belly" may be due to many causes. Feeding on coarse, innutritious food, pregnancy, abdominal tumor or an accumulation of fluid in the abdominal cavity are some of these. Or the abdomen may increase suddenly in size from an accumulation of gas in tympanic colic.

The simplest method of keeping track of a horse's general health is in the manure. The feces show the thoroughness of mastication and digestion. There should be no whole grains and the absorption of the food should be thorough. It should be free from any particularly offensive odor or coatings of mucus, the last named indicating intestinal catarrh. Blood on the feces



indicates severe inflammation. Very light color and bad odor may come from inactive liver. The presence of parasites may also be discovered in this way.

The Nervous System. This practical talk to horse users is necessarily confined to the common ailments of domestic animals which can be attended to by the help of simple remedies herein described and explained, yet a word about those ailments that require the highest skill of the trained veterinarian will not be amiss.

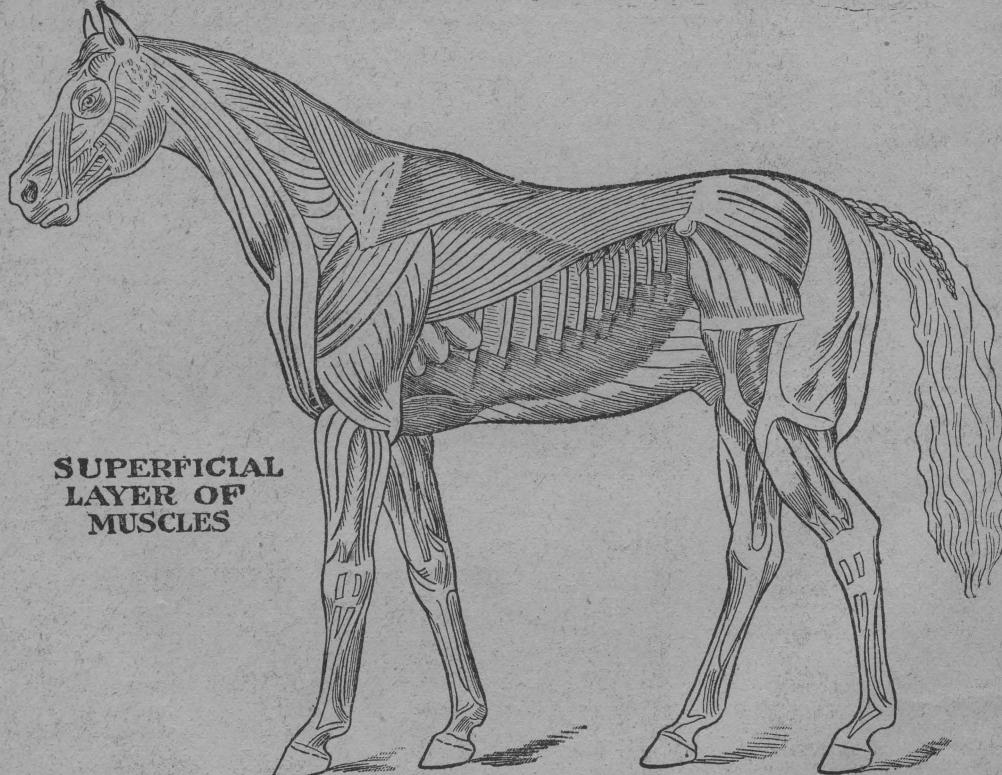
Paralysis and cramps of the limbs are not due to local conditions, as one might suppose. The trouble is in the brain. The front portion of the brain is supposed to be the seat of intelligence; and the central and posterior portions of the cerebrum contain the centers of the voluntary motions of the face and of the front and hind legs. The small brain or cerebellum is on the back of the head. So a tumor or inflammation in any certain portion of the brain has the effect of disturbing the motion of the part of the body which is governed by the portion of the brain affected. Again, the nerve paths from the brain through the spinal cord to the muscles may be obstructed, and thus there may be paralysis or cramps or uncertain, tottering gait. Abnormal mental excitement of a horse may be due to congestion of the brain or inflammation. Fainting, seldom seen in a horse, is likely to be caused by a temporary stoppage of the blood supply to the small brain, and it may pass away and never again occur, or it may be due to a tumor or abscess, from a hemorrhage, or from poisoning, in which case the illness may take on another form.

Loss of consciousness, known as coma, is caused by hemorrhage of the brain, exhaustion or poison.

Urinary and Sexual Organs. Many horsemen in examining a horse press the fingers on its back over the loins or slide them along on both sides of the spine, and, if he depresses his back, they say "his kidneys are weak." This is untrue and absurd; any healthy horse will sink under this manipulation. If the kidneys are inflamed, the back is held rigid and does not sink. The kidneys lie beneath the hindmost ribs in the "small of the back," as shown in the drawing. If acutely inflamed and especially sensitive, pressure or light blows applied here may cause the horse to shrink.

Painful urination, groaning, etc., indicate inflammation of the bladder or urethra, calculi, or "stones," in the bladder, tumors, bruises, etc. Retention of urine is caused by spasms of the muscles at the neck of the bladder, from "stones," tumors and paralysis of the bladder.

Horses usually void urine five to seven times a day, passing from four to seven quarts. Disease may be shown by a greater frequency or quantity. The urine of a healthy horse is pale or at times a slightly reddish yellow. Dark brown urine is seen in azoturia and in severe acute muscular rheumatism. A brownish green color is seen in jaundice. Red color indicates admixtures of blood, usually from the kidneys. The urine of a healthy horse is not clear and transparent, but slightly thick and stringy, from the mucus it contains, and cloudy on account of undissolved carbonate. A sediment collects when allowed to stand. Its specific gravity is 1.040 and nominally alkaline.



II. HOW TO ADMINISTER MEDICINES.

After Chapter by CH. B. MICHENER, V. S.

By the Mouth. Solids administered as powders should be as finely pulverized as possible, in order to secure rapid solution and absorption. Their action is in this way facilitated and intensified. Powders must be free from any irritant or caustic action upon the mouth. Those that are without any disagreeable taste or smell are readily eaten with the feed or taken in the drinking water.

Horse pills or "balls" should be cylindrical, three-fourths of an inch in diameter and two inches long; fresh mixed and, if sticky, wrapped in tough tissue paper. The basis may be ground flax seed, bran, etc., held together with honey, syrup, soap, etc., depending upon the medication. Balls are preferable to drenches, if once accustomed to administer them, particularly when the medicine is extremely disagreeable or nauseating or when the dose is not too large or the horse hard to drench, but balls should not be used in giving oils, caustic substances or for large doses. Balls are administered by the aid of a "balling-gun" or by hand, opening the horse's mouth, pulling forward the tongue and placing the ball as far back as possible in the mouth before closing it up. Stroking the throat and giving water to drink aid in inducing the horse to swallow the ball.

Drenching is generally easier and commonly resorted to. A beer bottle, with smooth, small, strong mouth and long neck, either pint or half pint, is suitable; or a horn or tin bottle, which avoids the risk of the horse breaking the glass with his teeth. The horse's head is held up, the nose about level with the forehead, but not so as to choke when attempting to swallow. The bottle is inserted at the side of the mouth, in front of the molar teeth. This will cause the horse to open his mouth, then the base of the bottle is elevated and about four ounces of the contents is poured in as far back as possible, care being taken not to get the bottle between the back teeth. The bottle is to be immediately removed and, to induce swallowing,

stroke the throat. As soon as this is swallowed repeat until all the drench is taken. If coughing occurs or the bottle is broken lower the head at once.

Drenches must never be given through the nose.

Inhalation. Volatile medicines, such as ether, chloroform, etc., should be administered only by the attending surgeon. Medicated vapors are inhaled by placing a bucket containing hot water, (not hot enough to scald) vinegar and water, scalded hay or bran to which carbolic acid, iodine, creolin, compound tincture of benzoin or other medicines have been added in the bottom of a long grain bag. The horse's head is inserted in the top of the bag and he thus inhales the medicated steam.

By the Skin. Medicines are often applied to our hair covered animals by the skin, but tobacco water, carbolic acid solutions, strong creolin solutions, mercurial ointment, and other strong medicines must not be applied over the entire body, as the poison is absorbed through the skin. It is a safe rule to apply medicine by the skin only to allay local pain or cure local diseases.

Enemas are often employed to aid the action of physics. They should be sufficient in quantity to distend the bowel and cause the animal to eject them. Simply water, salt-and-water or soap-and-water solutions, a gallon or more, may be given every half hour. It is best that the animal retain them a while to soften the discharge and thus help its passage. A stimulating enema of glycerin, should follow after the bowel is emptied and cleansed. A handy irrigator, which can be made by any one, consists of a small garden hose, four feet long fastened to a bucket. The hose well oiled is injected into the rectum and the bucket elevated, so that the water, or other contents, will flow by gravity into the bowels. Horses overcome by excessive heat should have rectal injections of ice cold water, which may be given by this simple pipe.

III. DISEASES OF DIGESTIVE ORGANS.

*Abstracted from Special Article by CH. B. MICHENER, V. S.,
and Revised by LEONARD PEARSON, B. S., V. M. D.*

Water. It is a mistaken notion that any water that the stock will drink is good enough. The rule should be that the water the owner would not wish to drink should not be offered to the horse or cow. Water made impure by decomposing organic matter coming from manure-heaps and cesspools causes diarrhoea, dysentery, etc., and when contaminated by mineral or germ poisons, it results in death.

As a general average a horse needs about eight gallons of water a day, varying as to size of the animal, food, weather, etc. A horse while not working should have water at least three times a day and more frequently while at work, giving a small quantity frequently rather than much at one time. There is a popular fallacy that, if a horse is warm, he should not be allowed to drink, many claiming that the first swallow of water "founders" the ani-

mal or produces colic. This is erroneous. No matter how warm a horse may be, it is always entirely safe to allow him from six to ten swallows of water. If this is given on going into the stable, he should be given at once a pound or two of hay and allowed to rest some time before feeding.

Never give a horse ice cold water; warm it if possible in the sun, or by adding a little hot water. If none except very cold water is available, give only small quantities at intervals.

As to purity, a safe rule is:

Dangerous, shallow well and river water containing sewerage;

Suspicious, stored rain water and surface water from cultivated lands;

Wholesome, spring water, deep well water and upland surface water.

Food. In the horse, digestion takes place principally in the intestines and here, as in all other animals and with all foods, it is found that a certain part only of the provender is digested; another portion is undigested. If a horse receives more food than his digestive organs can digest, there is loss of this unused food and also loss because of the effort to get rid of the unused portion; so that in fact too much food—by reason of the failure to assimilate and digest—may make the animal poor.

Foods should be wholesome, clean and sweet, the hours of feeding regular and the mode of preparation sanitary.

If we turn out a horse or cow and permit the animal to graze at will, it will be noticed that they leave off eating good grass and turn with a keen relish to certain weeds that are ordinarily supposed to be rejected as food by grazing animals. Leaves and bark of trees, a great variety of herbs, roots and seeds do actually enter into the food of every animal at pasture. This explains why horses that are run down by service in town are completely restored by a few months at pasture. The schools of agriculture have experimented for years to determine the ideal "balanced ration," and all that has been accomplished so far has been to approximate nature. Nature has given the animal an instinct that impels it, when at liberty, to seek those medicinal plants that supply its needs, curing its ailments and malnutrition and stimulating the functions of the various organs so as to balance every need of the animal's economy.

To supply the deficiency of ordinary foods there has been prepared by a manufacturer in

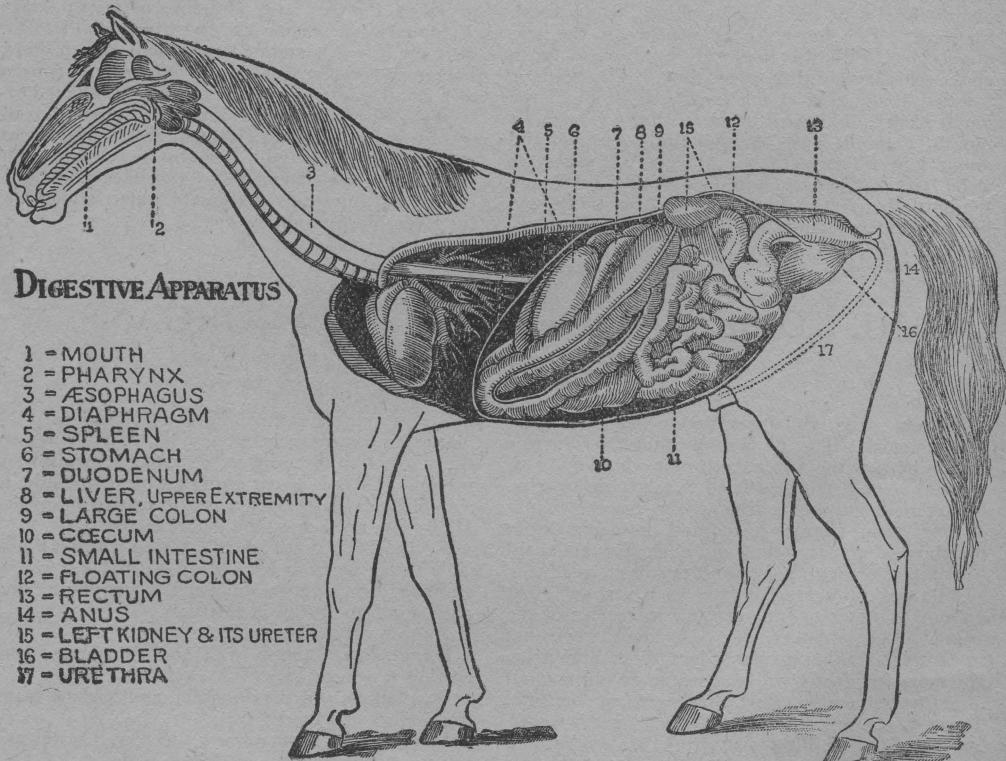
Minneapolis and is now sold throughout the United States a preparation widely known as Security Stock Powder. The manufacturer's claims are that it is composed from roots, herbs and barks. This is distinctively not a food.

One of the chief facts to consider is that Security Stock Powder, when intelligently used, is a feed saver. This is proven beyond any controversy by the experience of thousands of users covering a period of many years. Whether it pays to put 50-cent corn into the trough of a steer depends pretty largely upon whether he gets all the strength and growth out of the corn eaten—in other words, upon his digestion and assimilation. If the steer's digestive organs do not take up and turn into blood and flesh and bone every possible particle of meat-producing material in the food, the remaining part becomes barnyard waste.

Security Stock Powder is prepared for this special purpose; namely, to keep the animal's digestive organs always at their best. That it does this is abundantly proven by the letters of disinterested and responsible horse- and stock-owners in every state in the Union.

There is oftentimes all the difference between profit and loss, in the question of how many months it takes to get an animal ready for market. There is a time when the growth and consequent increase in value of an animal ceases to be more rapid than the increase in its total cost. Every stock raiser understands the fact.

If, by the aid of Security Stock Powder, an animal can be gotten practically as fit for mar-



ket in two years as would the ordinarily fed three-year-old, it must be plain that the farmer saves a whole year's feed, also labor in caring for the animal and the interest of the money it will sell for.

Upon this reasoning the steer that matures as a two-year-old is more profitable than the one that takes three years, and in like manner the hog that fits for market at from six to nine months is better than one that takes from nine to twelve months. In no other business is it more true that "Time is Money" than in the feeding of stock and Security Stock Powder was originated and perfected with this as the chief consideration.

The use of Security Stock Powder also increases the chances of an animal to resist diseases. The strong vigorous animal throws off disease, or perhaps more accurately, resists the efforts of the disease germs to get a hold.

Nor is this an element which can be ignored. How often the value of the animals that die on a farm during a twelve-month, if kept alive and sold, would show a handsome profit for the farmer.

In the study of the proper feeding of the horse a knowledge of the anatomical arrangement of the digestive organs should be had, as well as of the physiological functions performed by each one of them. It is hardly to be expected that every reader of this brief book will have the time, the opportunity or the inclination to acquire this knowledge. In fact, human knowledge is progressive. The more one knows, the more one recognizes the possibilities of extending his knowledge. The purpose of this writing is primarily to be a guide to the farmer and the owner of a few horses and other domestic animals. With this thought in mind, it will be remembered that it will often be necessary to dogmatize and state as fact much that in a larger work would be reasoned out and explained.

The common practice of feeding a horse oats and then hay is not in accord with the best knowledge of the horse's digestion. Hay and straw, after eating, pass out of the stomach in less time than oats. So, if the oats are given first, the hay forces it forward out of the stomach before digestion is completed. There is another reason why hay should be given first, particularly if the horse is very hungry or exhausted from work; that is that hay requires more time for mastication and hence cannot be bolted, as is likely with oats. In either instance water must not be given soon after feeding, as it washes (or sluices) the food from the stomach before it has been prepared for the intestinal assimilation.

Rapid and heavy work should not be required of a horse upon a full stomach. In such cases the food should be small in quantity and given some time before set to work. In fact, the small size of the stomach of the horse, as compared with other herbaceous animals, reminds us that the horse should be fed small quantities of food correspondingly often. And the disproportion between the size of the stomach and the amount of water drunk tells us that he should always be watered before feeding.

Perhaps the most serious error in connection with feeding, certainly the one which produces more digestive disorders than any other, is to feed too soon

after a hard day's work. If a horse is completely jaded after work, it will be found beneficial to give him an alcoholic stimulant upon putting him into the stable. A small quantity of hay may then be given and grain should be withheld from one to two hours. This is also true if a horse has been without food for any extra length of time. Give hay first and feed less than a full meal to begin. Under no circumstances attempt to "make up" by giving a large feed upon an empty stomach.

The fact that grain is of the greatest food value brings up the question, Why not feed the horse on grain entirely? The answer is that bulky food must be given to detain the grains in their passage through the intestinal tract; bulk also favors distention, and thus mechanically aids absorption. For horses that do slow work the greater part of the time, chopped or cut hay, fed with crushed oats, ground corn, etc., is the best manner of feeding, as it gives the required bulk, saves time and half the labor of feeding.

To this should be added the advice to supply the natural craving of the horse for a tonic, by giving in each feed the requisite quantity of Security Stock Powder.

Sudden changes of diet are always dangerous. Changing from oats to corn is almost sure to sicken a horse. All changes in feeding should be made gradually, remembering that more horses are fed too much than not enough. Even if resting for only a few days the amount should be reduced and, if this rule were applied to horses resting over Sunday, there would be less "Monday morning sickness."

Moldy foods are dangerous. They cause lung trouble, such as bronchitis and heaves. Moldy hay tends to bring on kidney disorders and every stock-owner knows the danger of ergotized grains and grasses to breeding females. Putrid sore throat (or choking distemper) is also attributed to a moldy feed.

The best hay for horses is timothy. It should be well seasoned, of greenish color, crisp, clean, fresh and possessing a sweet, pleasant aroma. New hay is difficult to digest, causes "slobbering," and frequently purging and irritation of the skin. If fed at all, it should be fed with old hay. The average horse on grain should be allowed ten or twelve pounds of good hay a day. It is a mistake to try to keep horses entirely on hay, they become pot-bellied, fall off in flesh and do not thrive. The same is true of colts.

Chaff of wheat or rye should never be fed to horses. The beards frequently become lodged in the throat and also in the intestines, where they cause obstructions known as "soft concretions." Oat chaff, if fed with cut hay or corn fodder is relished by horses, but should never be fed in large quantities. A dangerous diarrhoea often comes when horses and cattle have free access to a pile of oat chaff.

Oats, the ideal feed for horses, should be one year old, plump, short, hard, clean, bright and sweet. For the average horse twelve quarts a day is the proper quantity. This is varied by numerous conditions, the size of the horse, the work done, the amount of other food and individual characteristics of the animal.

The value of bran as a food is variously estimated. It should never be depended upon as an ex-

clusive food for horses. Its principal purpose is to keep the bowels open and it should always be given fresh-mixed, if wet, because sour bran disorders the stomach. Wheat and rye, if fed, should never constitute more than one-fourth of the rations and should be ground or crushed. In some parts of the country corn is the chief, and on some farms, the only grain given to horses.

Corn is considered deficient in salts and for that reason corn-fed animals thrive so much better if given Security Stock Powder, which supplies the missing elements in food rations and, as experience shows, saving in the cost of the corn required.

Linseed meal is much used for feed in England, where the American linseed cake is practically all shipped. It is valuable if fed with other food, particularly after sickness, when the bowels are sluggish, but a more satisfactory way is to feed Security Stock Powder all the time.

Diseases of the Teeth. The average man has too slight opportunity to learn or practice operations in veterinary dentistry, but he can at least be prepared to recognize the symptoms and so learn when to call in the service of a practicing veterinarian, even if not competent to undertake treatment personally. There is a tendency among farmers and many veterinarians to pay too little attention to the teeth of young horses. The mouths of horses develop first the milk teeth, then the permanent teeth. Sometimes a milk tooth remains too long and causes the second tooth to come in crooked. In such cases the milk tooth can generally be removed with forceps, or even with a chisel. The practice, particularly common in large cities, of regularly "floating" or rasping the teeth down, as done by veterinary dentists is a recognition of the correct principle but the operation is often unnecessary. The grinding surface of the teeth should be rough, not smooth. As the teeth of the upper jaw are set apart wider than those of the lower, there is likely to be a sharp edge on the inside of the under molars and a corresponding sharp edge on the outer edge of the upper molars, which may cut the tongue or the cheek. This condition can be felt by the hand and can be removed by a guarded rasp. Horses whose teeth are unduly sharp on the edges are likely to drive badly, pulling on one side and starting suddenly when a tender spot is touched. Toothache is rare in horses. It is discovered while eating or when the animal is drinking cold water. They stop suddenly and drop the water or food out of the mouth. If, upon examination, no foreign body is found in the teeth or sticking in the glands each tooth should be examined separately. Tapping each tooth with a small hammer may reveal the trouble, the horse will flinch when the decayed tooth is pressed or struck. In most cases the only remedy is the removal of the tooth, and this should generally be referred to a veterinarian. Horses having the deformity known as "parrot mouth"—upper incisors projecting beyond the lower ones so that they never come together—find grazing very difficult. Little can be done except to rasp the long teeth off to normal.

Lampas. Whenever a horse fails to eat and does not otherwise exhibit signs of severe illness many stable men say, "he has the lampas." It is almost impossible to convince them to the contrary

and yet it is seldom the case. Where there is some irritation in the mouth, as from stomatitis or teething, the mucous membrane forming the roof of the mouth becomes swollen and a slight scarification is the most that can be required.

A number of other recognized diseases of the mouth, including Stomatitis, Glossitis, Plyalism (or salivation) may be briefly referred to as affecting the mucous membrane. The symptoms include swelling, copious salivation and inflammation. The treatment is soft feed and fresh cold water constantly by, so the horse can drink, or cool his mouth, at will.

The horse should be isolated from other horses and his bit and feed box disinfected with Security Carbonized Disinfectant. Astringent washes may be applied to the mouth by means of a sponge. The use of Security Distemper, Cough and Epizootic Remedy is recommended. When the inflammation extends to the throat and the horse has difficulty in swallowing liquids, it is probably Pharyngitis, which is treated by wrapping a wet sheet around the throat covered by a rubber sheeting and a warm blanket, changed three times a day, or the throat may be rubbed with a mild dilution of the Security Caustic Blister twice daily until the skin becomes irritated, but no longer.

Paralysis of the Pharynx, (throat) is an uncommon but serious disease. The horse tries to eat but cannot swallow. If he gets any liquid into the back part of his mouth it comes out through the nostrils. If possible, call a veterinarian at once, but treatment is likely to be unsatisfactory. A severe blister behind and under the jaw, and frequent swabbing out of the mouth with 1 ounce of alum in a pint of water will ease matters and 1 grain of strichnia two or three times a day may benefit. This disease is frequently confounded with cerebro-spinal meningitis.

DISEASES OF THE ESOPHAGUS (OR GULLET.)

Choking. Whatever the object which causes the horse to choke, it may lodge (1) at the upper part of the esophagus (at the throat); (2) at the middle; or (3) close to the stomach—designated by veterinarians as (1) pharyngeal, (2) cervical and (3) thoracic choke. The horse presents symptoms of great distress, hurried breathing, frequent cough, excessive flow of saliva, sweating, trembling or stamping the fore feet. The abdomen rapidly distends with gas.

The treatment is to remove the obstruction; if it is at the upper part, it can be felt with the hand or seen. In this case it may be squeezed up by pressure on the outside, so as to be removed by the fingers—keeping the mouth open by a gag or speculum—if too low, it may be worked up by pressure and running on the outside; if it cannot be reached by the hand, it may be secured with forceps. The lower obstruction may be treated with oils and mucilaginous drinks, or by the careful use of a probang—use a piece of inch hose 6 feet long, or a new three-quarter inch rope, well wrapped at the end with twine, and greased thick with tallow. This must be used very gently and steadily or injury will result. Choking sometimes results in the distention of the esophagus into a sack, which brings on choking whenever hard food

is fed, and the horse soon becomes a subject of constant "swapping," and in time the sack becomes so hard that the animal dies.

DISEASES OF THE STOMACH AND INTESTINES.

In the horse the stomach is relatively small; so it is considered together with the intestines. The passage of food through the animal is generally divided, as follows: (1) **In the mouth**—chewing fine and mixing saliva from the glands of the mouth and throat; (2) **In the Stomach**, digestion, which is similar in effect to cooking, the effect being accomplished not by heat but with the juices of the stomach; and (3) **Assimilation by the Intestines**, in which the solvent food is taken up by the circulation and incorporated into the blood, and the residue passes out of the system by the bowels. It should be stated that the process of assimilation is not confined to the intestines alone, but is done in part by the stomach.

Colic. The most important disease of the digestive apparatus of the horse is Colic, causing more loss than all the other fatal diseases. The term colic is popularly applied to about every form of disease in which the horse suffers pain in his abdomen. The reason is that the symptoms are confusing and it is easiest to put all into one general class, but at least five forms are recognized by the veterinary profession. (1) Engorgement colic; (2) Obstruction colic; (3) Tympanitic colic; (4) Spasmodic colic; (5) Worm colic.

(1) **Engorgement Colic**, it may be stated, if in its worst form, is beyond help; in other words, there is no medicine which can cure. And yet with the same frankness it must be stated that no case of colic should be given up until the animal is dead. The only safe way is to assume that the horse has one of the curable forms of colic and treat his disease accordingly. A long explanation might be given of the character of Engorgement Colic, due to over-feeding or change of food, or bad, indigestible food, but there is no known treatment which will cure.

(2) **Obstruction Colic** is caused by an obstruction in the stomach or bowels by accumulation of partly digested food (fecal matter); also by foreign bodies, by displacements, by paralysis or by abnormal growths. If promptly recognized and treated it need not prove fatal. It is caused by over-feeding, especially of bulky food containing an excess of indigestible residue such as old, dry hay or stalks; lack of water or exercise, etc.

Symptoms. Impaction of the large bowels is diagnosed by a slight abdominal pain, which may disappear for a day or two and reappear with more violence. The dung is passed more frequently, but in smaller quantities and more dry; the abdomen is full but not distended. The horse begins to paw and look back at both sides. When lying down it is flat on the side, head and legs extended, occasionally raising the head to look back at the flanks, remaining down five to fifteen minutes at a time; then rises, walks about, paws, looks at his side and lies down again. Frequent attempts are made to urinate. The pulse is little changed at first, but later becomes rapid and feeble; the intestinal sound heard by putting the ear against the horse's body practically ceases. Horses may suffer from impaction of the bowels for a week and yet recover, as a rule they last only four or five days, many dying sooner. The only safe way is to act promptly.

Constipation and the formation of calculi (stones) in the stomach and also concretions of calculi in the intestines are causes of obstruction colic. Another cause is the slipping of a portion of one intestine into another portion immediately adjoining it (like a partially turned glove finger), also paralysis of the intestine.

(3) **Flatulent Colic**, (tympanitic colic, wind colic or bloat.) This is the most frequently encountered form of colic and in many respects it is embraced in the other forms. Anything that produces indigestion may bring on Flatulent colic—sudden changes of food, too long fasting, giving food while animal is exhausted, large quantities of green food or indigestible food, bad teeth, crib-biting, etc.

The symptoms of **wind colic** develop gradually. The horse is dull, paws slightly and may or may not lie down. The pains from the start are continuous. The belly enlarges and gives a drum-like sound when struck. If not soon relieved these symptoms are aggravated, breathing becomes difficult; eyes are blood-shot, heart beat is loud and tumultuous, perspiration sets in, the fore legs tremble, the horse staggers from side to side, sighs in pain and finally plunges forward, dead.

It is particularly for this form of colic that **Security Gas Colic Cure** is recommended by the manufacturer. So certain is the remedy that it is put out with the guarantee that the money will be refunded by the manufacturer to any purchaser who will write stating the facts and enclosing the wrapper of the package. Literally thousands of horse owners have written the most flattering endorsements after the fullest trials and many horsemen keep a dozen treatments on hand. This cure is an alkali counteracting the effect of the sour gas forming in the stomach and operating similar to a Seidlitz powder, the use of which is everywhere understood.

(4) **Spasmodic Colic or Cramp** is cramps of a small intestine, due to indigestible food, large drinks of cold water when warm, driving a heated horse through a cold stream, cold rains, drafts of cold air, etc. This is a form of nervous disorder producing cramp of the bowels, just as external cramp is produced, and hence occurs most frequently in high-bred nervous horses.

Spasmodic colic begins suddenly. If feeding, the horse stops suddenly, stamps impatiently and looks back. Next comes more acute pain, pawing, lying down and rolling; getting up—perhaps an interval of ease when he seems to be entirely well—but the pain returns with increased severity, passing off again and recurring at shorter intervals—manifesting the most intense pain, dropping down, striking with the fore feet, jumping, whirling, kicking and with frequent attempts to urinate—but no bloating as with wind colic.

In this as in Flatulent Colic remarkable cures by using **Security Gas Colic Cure** have been reported to the manufacturer by many users. In both these treatments and also in that for worm colic rectal injections of from 3 to 6 quarts of luke warm soapy water, are of material help and great relief. A large syringe, or a piece of rubber hose 4 or 5 feet long, with a funnel attached at one end and the other end smoothly rounded off and oiled, is essential.

(5) **Worm Colic** is caused by worms that are developed from the egg in the horse's intestinal canal. The most common is the bot-fly grubs and larvae, which is illustrated below. There is a popular fallacy that the bots eat through the stomach or intestine and thus cause the death of the horse. Bots are injurious because they live upon the strength of the horse—a parasite—and also because they sometimes are so numerous that they interfere with the passage of the food through the digestive track. There are also three kinds of tape worms, one round worm and several kinds of smaller round worms.

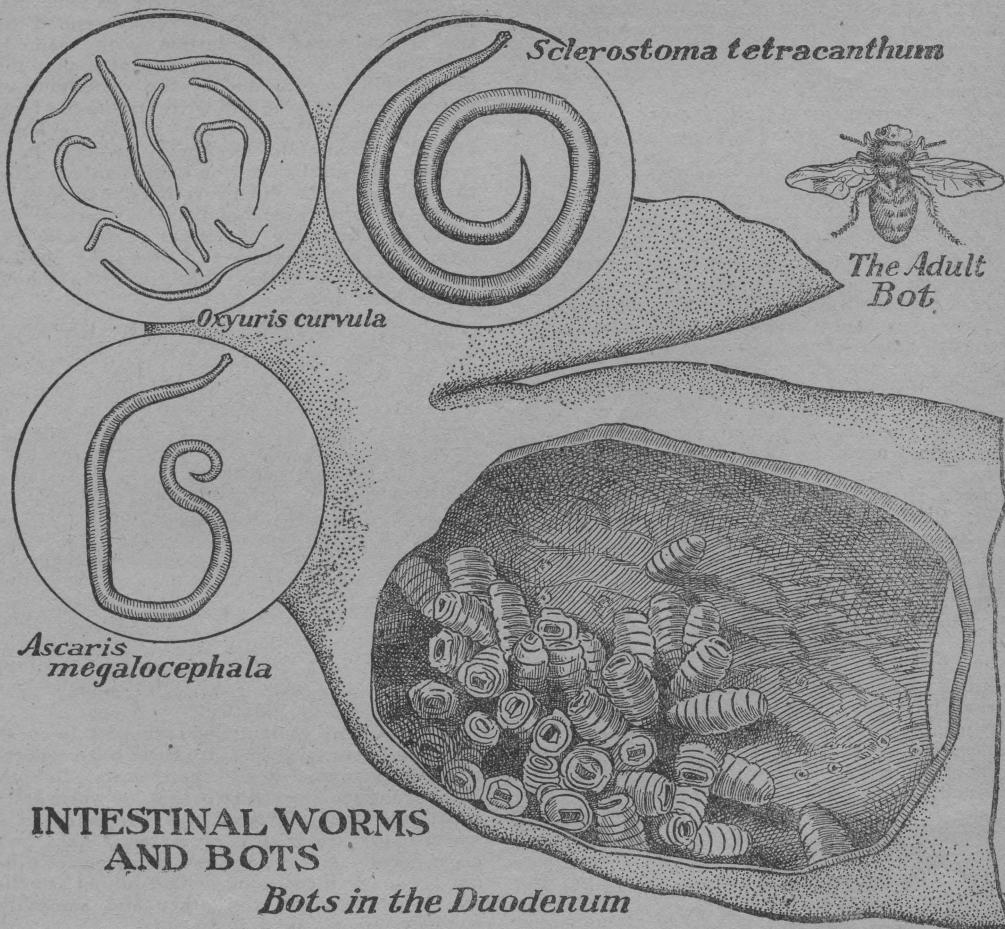
The symptoms of worm colic are often hard to observe. If the worms are numerous there is a slight colic at times, frequent switching of the tail, frequent passage of manure, itching of the anus and rubbing of the tail and rump against stall or fence, and horse in poor condition, inclined to be hide-bound and pot-bellied, appetite depraved and irregular. The one sure symptom is the presence of worms or their eggs (by the microscope) in the dung.

In this case it is simpler to assume that the horse has worms and treat him for them than to remain in doubt and watch for proof. The

best proof will be the expelling of the worms. This is insured by the use of Security Worm Powder, which is given with the regular food. Even if it should develop that the horse has no worms, he will be much benefited by the treatment as the worm powder is a laxative and tonic which is certain to do good to any horse exhibiting any of the symptoms named. Bot-fly larvae (bots) sometimes lodge in the rectum in which case they may be dislodged by injecting tobacco water. Plenty of rock salt for the horse to lick is useful, but it is not a substitute for an efficient worm powder.

Indigestion or Gastro-Intestinal Catarrh. Some horses are naturally endowed with weak digestive organs and are predisposed to these troubles. Anything that irritates the stomach or intestines may cause the disease, including sudden changes of diet, unripe or damaged food, and worms; working too hard or too soon after feeding may bring on colic or indigestion, sucking colts are similarly affected from the milk of the mare.

Symptoms. Irregular or depraved appetite, eating dirt or soiled bedding; animal loses flesh and skin becomes hard and dry (hidebound); more or



less colic pain and abdomen becomes "tucked up" in appearance, or flaccid and pendulous.

The treatment prescribed is to commence with the food and water and the stable conditions. The feeding should be regular in moderate quantity, the water should be fresh and pure and the animal allowed to drink small quantities frequently; the mouth and teeth should be examined (to see that the trouble is not due to failure to masticate the food properly,) and feeding should be watched to see that it is not due to "bolting" the food unchewed.

Assuming that there are no worms and that the animal has been placed on a healthy diet in a sanitary stable, no better treatment than Security Stock Powder can be recommended. The purpose of this powder is to prevent the horse from getting into a condition of acute or chronic indigestion, and with rest and wholesome condition this powder will cure almost any case of indigestion.

Diarrhea, Superpurgation and Dysentery are very similar to the same diseases of the human family. Some horses are disposed to scour and are called "washy" by horsemen; they are those with long bodies, long legs and narrow flat sides.

Fortunately the disease is easily diagnosed and understood and the natural course is to restore the animal to health and then keep him well by a good stock powder.

Superpurgation, as its name implies, is applied to a form of diarrhea which is induced by and follows a physic—as from too large a dose, giving physic when suffering from pneumonia or influenza, driving when purging, etc. In extreme cases this leads to laminitis (founder), and as a preventative the horse should have his shoes removed and be kept standing in moist sawdust or similar cooling bedding.

Dysentery, sometimes called "bloody flux", is dangerous and demands good care more than specific

medical treatment. The horse should be kept in a warm, dry, well-ventilated stable, the sides and legs should be rubbed frequently with wisps of straw to keep up the circulation, also kept warm with blankets, food light and easily digested and water pure and in small quantities.

A great help will be found in Security Stock Powder in cases of this kind.

Gastro-Enteritis is inflammation of the stomach and intestines which involves the entire thickness of the organ. The animal stops eating, is colic and feverish, pulse and respiration rapid, mucous membrane red and mouth dry and hot; constipation followed by diarrhea. The cause may be poison, as corrosive sublimate, sugar of lead, sulphate of copper, arsenic, lye or tobacco, lobelia, hemlock water, etc., or the disease may be secondary to infectious diseases, such as anthrax, influenza, etc. In either event the trouble is beyond the skill of any except a competent veterinarian, who should be consulted as soon as possible.

The same advice holds for Peritonitis, which is inflammation of the serous membrane within the abdomen. It may come from injuries, wounds, following an operation for castration, or in cases of Strangulated Hernia, etc. This and the Enteritis are often spoken of as "inflammation of the bowels." They are too serious for unskilled hands and should be attended to at once by the best veterinarian.

Horses are troubled with Hemorrhoids (Piles), and also with various forms of Hernia (Rupture). Strangulated Hernia can be trusted only to the veterinarian, but in many cases Hernia continues for years, and perhaps disappears, without serious results. With colts, as with infants, Umbilical Hernia is quite common. It can be treated by tying a pad over the umbilicus until the enlargement disappears.

IV. DISEASES OF THE RESPIRATORY ORGANS

*After W. H. HARBAUGH, V. S.,
as Revised in 1903 by LEONARD PEARSON, B. S. V., M. D.*

The respiratory organs are: the nostrils (the two openings in the nose); the nasal chambers, through which the air passes in the head; the sinuses in the head communicating with the nasal chambers, the pharynx used both for breathing and swallowing; the larynx at the top of the windpipe; the trachea, or windpipe; the two bronchi (into which the windpipe divides) leading to the right and left lungs, the bronchial tubes, which penetrate and convey air to all parts of the lungs; and lastly the lungs, whose function it is to transmit to the blood oxygen from the fresh air, and carry off the carbonic acid gas, with which the blood becomes charged as it passes through the system. The lungs are in what is called the thoracic cavity; and the pleura is a thin membrane which forms the lining of this cavity and also serves as an envelope for the lung. When this becomes inflamed, we have pleurisy. The diaphragm is a muscular structure separating (like a drumhead) the thoracic from the abdominal cavity. Its chief function is to aid in drawing in the breath. These are substantially all the organs of breathing.

Just within the nasal openings the skin becomes finer until it is succeeded by the mucous membrane, which should be regarded as the inner skin of the animal, having many elements in common, although, of course, more delicate, more susceptible to the substances with which it comes in contact. The mucous membrane of the respiratory tract is particularly delicate.

The horse normally breathes only through the nostrils. The quality of air breathed more than any other one element affects the health of the respiration. Badly ventilated stables are a frequent source of disease. Many farm stables are so faultily constructed that it is almost impossible for foul air to get out or fresh air to get in. Better a great deal that a stable should be cold than that it should be lacking of ventilation. A horse can be kept warm with blankets. In ventilating a stable it is best to arrange to remove the bad air (which is heaviest) from near the floor, and admit the fresh air from numerous small openings near the top of the room. In summer, top exits and cross currents should be provided to remove excessive heat.

Stables should be well drained and kept clean. Ammonia gas is particularly injurious. A stable should also be free from drafts which can strike the horse. Disease of the organs of respiration are to be guarded against particularly when the animal is changing his coat of hair in spring and fall, also when the weather is extreme, either heat or cold.

Cold in the Head, or Nasal Catarrh. This is most common and only becomes serious by reason of the fact that it may lead to debilitating and dangerous troubles. Catarrh is an inflammation of the mucous membrane. Its symptoms in the horse are similar to catarrh of the human family. In fact, it should be remembered that the horse and his diseases are most easily understood when the human animal is considered in comparison. In catarrh the nasal membrane first becomes dry, congested and red; soon a watery discharge begins, eyes are affected, and the animal has some fever, which can be detected by placing the finger in the horse's mouth. After a few days the discharge becomes thick and sticky, yellowish white and more or less profuse. Oftentimes the appetite is lost and the animal becomes debilitated.

In the treatment of this disorder pure air and rest in a light, airy stable away from drafts and with nourishing light food are worth more than medicine. With these the use of a remedy known as the Security Distemper, Chronic Cough and Pink Eye Remedy is strongly advised. The manufacturers claim:

"Guaranteed to cure all coughs, colds, epizootic, pink eye and membranous troubles; also good for horses off their feed, as it is a great appetizer." This remedy was thoroughly tested and largely used during the famous epidemic of epizootic in 1872, giving complete satisfaction.

Inhalation of steam also affords relief and helps to cure. Put the horse's head over a pail of boiling water and stir with a wisp of hay to increase escape of steam. Do this four or five times a day, 20 minutes each time.

Chronic Catarrh, or Nasal Gleet. (Beware of Glanders.) This usually comes from a neglected or badly treated cold, and is likely to follow exposure, over-work or poor food, when the animal becomes run down. It is sometimes due to fracture of the bone of the nose, diseased teeth or when small particles of food are coughed into the nose and there become festered.

In examining take great caution, the horse may have glanders. On the other hand horses have been condemned as glandered when in fact it was only nasal gleet. This affection is most contagious; it may last a long time notwithstanding the best treatment. Study well the symptoms of glanders and, if possible, ascertain the real cause of the trouble.

In the meantime a regular use of the Security Distemper, Chronic Cough and Pink Eye remedy should be given to build up the system, also nutritive food and regular moderate exercise.

The food box should be placed on the ground, as the dependent position of the head favors the discharge.

Thickening of the nasal membrane is also a result of neglected catarrh, and its treatment is similar to nasal gleet.

Polypus—Nasal and Pharyngeal. Horses are affected similar to the human family with narrow

pear-shaped tumors that grow out of the membrane of the nasal chambers and throat obstructing the breathing. They cause a discharge from the nostrils and generally a noisy snuffling. The only relief is the removal of the polypus, which should be done by an expert. The operation is performed by grasping the base of the tumor with forceps, twisting it round and round until it is torn from its attachment, or by cutting it off with a noose or wire.

Bleeding from the Nose. This may be due to injuries to the head, violent exertion, rupture of a small blood vessel in sneezing, as well as during the course of influenza, bronchitis, glanders, etc. Try to learn the cause and, if it persists, pour ice water over the face, or put a bag of ice against the head. If this fails plug up one nostril at a time, with a roll of clean cotton waste or oakum, and leave in for several hours.

Sore Throat or Laryngitis. The larynx is the top of the windpipe, between the lower jaw bones and back of the root of the tongue. Its inflammation is painful and serious, sometimes fatal. The animal should be treated, as in cold in the head, as to fresh air and clean dry stable; and should be blanketed, the legs bandaged. Frequent steam inhalations are to be recommended, and a supply of fresh water should be before him all the time.

The use of Security Distemper, Epizootic, Chronic Cough and Pink Eye Remedy is particularly appropriate in such cases. Rub the animal's throat twice a day with Security Liniament and keep the stable disinfected with Security Carbolized Disinfectant.

Tracheotomy or Wind-Pipe Breathing is sometimes resorted to when suffocation seems to be inevitable. This is harder to describe than to perform by one experienced. If possible, a veterinarian should be secured, but there is sometimes no time for delay. The operator should have a tracheotomy tube, a sharp knife, a sponge and a bucket of clean, cold water. The place to be selected for opening the windpipe is least covered with muscles, about five or six inches below the throat. Have an assistant hold the horse's head still; grasp the knife firmly and make the cut from above to below directly in the middle of the front of the windpipe. Make the cut two inches long in the windpipe, which necessitates cutting three or four inches. One bold stroke is best, but if not sufficient, finish the job at once; do not hesitate. Instant relief to the animal and the hot air rushing out will tell you that the effort has been successful.

As soon as the cut is made the horse's neck should be lowered to horizontal to prevent the blood getting into the windpipe. A slight hemorrhage may result which may be sponged with cold water, being careful to get no water into the windpipe. The tube may be either self-adjustable or it may require to be fastened by two tapes or strings tied about the neck. The tube should be removed once each day and cleaned in a carbolic acid solution (1 to 20) and the discharge washed away by a similar solution, 1 part of carbolic acid to 40 parts of water. A tracheotomy tube is not absolutely necessary; if none can be secured, take a strong needle, pass a wax end or other strong string through each side of the wound, including the cartilage of the windpipe, and keep the wound open by tying the strings over the neck. During the

time the tube is used the treatment is not to be neglected. If the animal becomes weak give 2 ounces of whisky in water.

Thick Wind and Roaring. Roaring is an affection of the larynx which is due to a paralysis of those muscles by which the vocal cord and adjacent cartilage are controlled. The nerves which control these muscles are diseased and the seat of the disease may be, and probably is, far away from the larynx. Roaring is really a nervous disease, not truly one of the respiratory system. There is no effective cure, although a surgical operation may improve conditions and prevent the noise. A horse is tested for "roaring" by running him up hill or over rough ground, to exhaust his wind. "Whistling" is another form of roaring; also "grunting."

DISEASES OF THE LUNGS

No attempt can be made in a brief work of this kind to describe in detail all the diseases of the lungs; instead a short explanation of their construction and operation may throw more light and be of more practical value. And while each of the several forms of disease of the lungs is treated separately, it should be remembered that in nature there are no such arbitrary lines, often one affection leads to another and not infrequently a horse suffers from several at the same time.

The lungs consist of two (right and left) spongy masses, often called "lights," which, with the heart, occupy the thoracic cavity. Their external covering is the pleura. The structure of the lung consists of a light, soft, but very strong and remarkably elastic tissue. Each lung is divided into a certain number of lobes; these are subdivided into numberless lobules (little lobes). As previously described, the bronchial tubes lead to these

lobules, and from them radiate minute branches which open into the air cells (pulmonary vesicles) of the lungs. The air cells are little sacs so small that it will take 70 to 200 to extend one inch. They have no other opening. Small blood vessels ramify in the walls of the air cells, and through the thin tissue between the air cells and the blood vessels goes on the constant interchange of gases which purifies the blood; this is the real purpose of all the organs of respiration. Unless this interchange of gases goes on, the animal dies, and when a part of the lung fails to perform its constant service other parts of the lung are called upon to do double duty. By this provision of nature an animal often lives with one lung congested and inoperative, while the other keeps up the supply of oxygen in the blood and removes the carbonic acid gas.

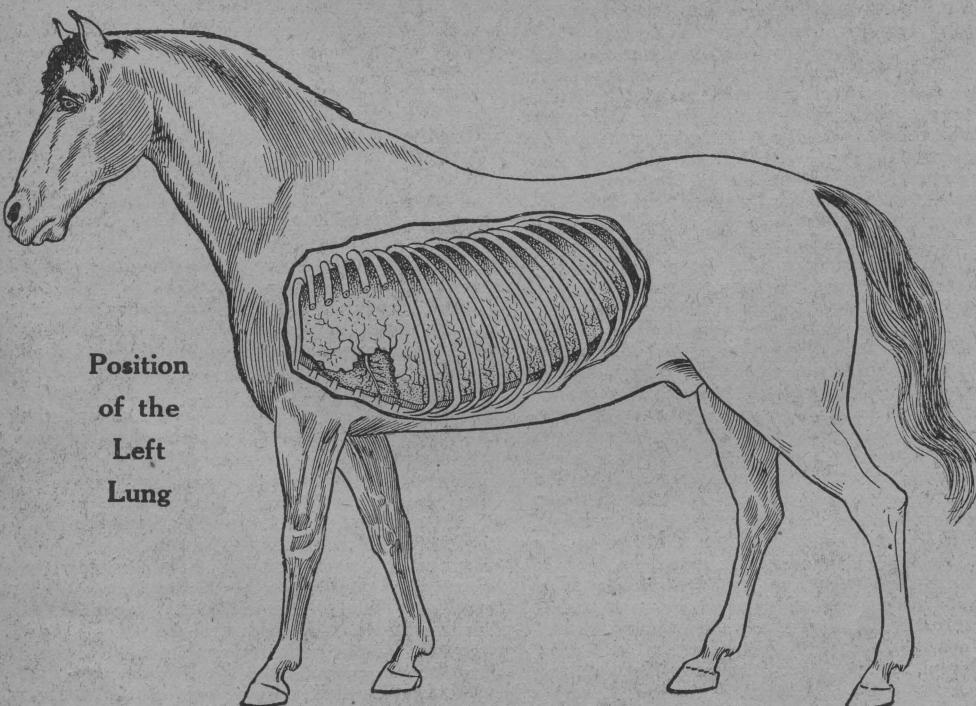
Congestion of the Lungs. This is nothing else than an excess of blood in the parts congested; often a symptom of extreme exhaustion, (as from very fast or long driving) or dilation of the heart.

Every horse owner knows how horses get "soft" when idle and how they are "put back into condition," first by gentle, then gradually by more strenuous exercise, until they are ready for the fastest and hardest work.

The symptoms are evident; head down, legs spread out, eyes either wildly staring or dull and sunken, breath rapid and gasping; body covered with perspiration, which may soon evaporate, leaving the surface and legs and ears cold; heart either thumps violently or is very faint, and perhaps a fine crackling sound is noticed by putting an ear to the chest.

Treatment. If the animal manifests these symptoms on the road, **stop immediately; do not at-**

Position
of the
Left
Lung



tempt to return to the stable. If in the stable, give unlimited fresh air; in warm weather out doors is best; if too cold let him stand with head to the door and let him stand still, he has all he can do to keep alive. Blanket and rub body and legs with wisps of straw or cloths; put as many hands to rubbing as can find room; rub under blanket until warmth returns and bandage legs up to the knee and hock when they are warm. A quarter of a pint of whisky in a pint of water every hour will help keep up the animal; brandy or other alcoholic stimulants may be substituted. Bleeding five or six quarts from the jugular vein will give relief, but must not be repeated. The blood will have a tarry appearance. When the alarming symptoms are past the animal must have the best of care to avoid pneumonia. Pure air, fresh water always in the stall, bran mashes or scalded oats for diet and a season of rest, then light exercise before regular work, these are necessary to insure recovery.

Security Stock Powder is an excellent preventative and a great benefit after such an attack. A perfectly well horse in good condition should not have congestion of the lungs.

Pneumonia or Lung Fever. Pneumonia is inflammation of the lungs, which fill up either with a catarrhal secretion, making broncho-pneumonia; or a fibrinous coagulation thrown off through the blood vessels, which is known as croupous pneumonia. A common cold or sore throat may be followed by pneumonia if the horse is neglected or improperly treated, or worked beyond his strength when in a debilitated condition; badly ventilated quarters, a cold draft or other diseases like influenza, glanders, strangles, are causes of pneumonia.

Symptoms. The horse does not lie down; the breathing is labored and fast, head seeks fresh air and hangs, and appearance is dull, mouth hot and sticky to the touch, temperature 103 degrees F. or higher; pulse frequent, (60 to 80 a minute); usually dry cough at beginning which may change to moist, or turn into the short, suppressed cough peculiar to pleurisy; appetite pretty well lost, but desire for water increased, particularly at first; bowels constipated and dung covered with slimy mucus.

In case of pleurisy complication the animal is in pain and restless and may lie down for a few minutes to seek relief. In pleurisy the ribs are kept as rigid as possible to avoid pain and breathing is from the abdomen as much as possible.

A case of pneumonia may not seem very serious to the casual observer, because the symptoms are not evident; if neglected they soon become intensified, and that means very dangerous, the disease generally running from ten to twenty days.

Treatment. A comfortable, ventilated stable, free from drafts and sudden changes of temperature, is essential. Keep warm with blankets, rub the legs and bandage up the hocks and knees; dry ground mustard may be rubbed into the hair of the legs, if they cannot be warmed by simply rubbing. (Never use powerful blistering compounds, they are harmful.) Hot applications on the side of the chest are very beneficial; this may be a blanket soaked in hot water with a dry blanket over; or by dry pads containing heated metals or anything that will keep the chest warm and free from cold drafts. Mustard plaster covered with paper and a blanket is also advised. (Never attempt to bleed during pneumonia.)

The diet consists principally of bran mash, scalded oats and anything that will tend to stimulate the appetite and build up strength.

This is particularly the province of Security Stock Powder. It should be given liberally with each meal according to directions.

Bronchitis and Broncho-Pneumonia. As its name implies, bronchitis is an inflammation of the bronchial tubes; when this inflammation extends to the air sacs at the ends of the smallest branches of the tubes it is broncho-pneumonia. Bronchitis of the smaller tubes is one of the most fatal diseases, while that of the larger tubes is never very serious. But the non-expert cannot tell the difference and he will also be unable probably to distinguish between bronchitis and pneumonia.

Treatment. Fortunately for those who have the responsibility cast upon them of deciding what to do for a sick horse, when they have had little or no preparation for this task, the treatment for bronchitis, as well as many of the general symptoms, are very much the same. Pure air, a comfortable, clean, ventilated box stall, a blanket to keep the animal warm, hand rubbing the legs (with dry mustard, if the legs are slow in warming up) and bandaging the legs to the knees and hocks (loosely, so as to keep warm without stopping the circulation,) and a mustard plaster eighteen inches wide running back from the shoulder blade and from ten inches of the backbone to the middle of the belly underneath (on one side or both, according as the disease seems to be located), these are the principal features of the treatment.

What the animal needs most of all is good nursing. The Security Distemper, Epizootic, Chronic Cough and Pink Eye Remedy is intended particularly for diseases of the respiratory organs.

The mustard plaster should be used early and applied again about three days after the first one. The animal should inhale steam from a pail of boiling water containing a table-spoonful of oil of turpentine and spirits of camphor. The feeding should be light and a soft diet; but if he refuses cooked food allow small quantities of anything he will eat. Sometimes a horse will drink milk; 1 to 2 gallons four or five times a day will support life. A pail of pure cold water should always stand in the stall. The horse will not drink too much.

In the use of Security Stock Powder, which sharpens the appetite and invigorates the entire system, according to the manufacturer, is found just the medicine for all forms of trouble of the respiratory organs. What is needed most of all is vitality enough to let the disease take its regular course and then throw off the phlegm and effete matter. It should be given during the sickness and continued regularly during convalescence.

Pleurisy. As previously stated, the pleura is the outer covering of the lung and also the inner lining of the cavity under the ribs. It is always moist and its purpose is to avoid the friction which would otherwise be due to rubbing of the lungs against the walls of the cavity, as is done constantly in breathing. The pleura seldom becomes inflamed independent of inflammation of the lung. Other causes are blows or injuries from the outside, which penetrate the pleura, and the inflammation may spread and involve a large part of the surface.

During health there is no adhesion between the lung and chest; but a form of adhesion takes place during the inflammation, which accounts for the pain which accompanies this disease, and it is in this that the most readily recognized symptom is found. The animal is disinclined to move or turn around, standing stiff, the ribs fixed so that breathing is from the abdomen as much as possible. During the onset he is restless, sometimes lying down for a few minutes in hope of relief.

Treatment. The instructions in regard to bronchitis and pneumonia apply equally to pleurisy; comfortable quarters, pure air, warm covering and bandages for the legs and plentiful supply of cold water, laxative food, etc. Hot applications applied to the chest, as in pneumonia, are very beneficial in pleurisy, and should be kept up while the symptoms show the animal to be in pain. See the treatment for Pneumonia and Bronchitis previously given. It will apply.

If the animal does not materially improve in ten or twelve days after the beginning of the attack, the trouble is with the large amount of fluid in the chest (hydro thorax) which the animal is too weak to throw off or absorb. The breathing becomes more rapid and labored. In some cases however it is necessary to tap the chest by means of a combined instrument called the trocar and canula, the puncture being made between the eighth and ninth ribs, being careful to avoid the intercostal artery (the artery of the cartilage between the ribs), which is done by making the opening as near the edge of the rib as possible. This operation, however, should only be attempted by a veterinarian.

Heaves, Broken Wind or Asthma. Much confusion exists in the popular mind in regard to the nature of heaves. Many horsemen loosely apply the term to all ailments where breathing is difficult or noisy. About the exact cause of the ailment, there is a great diversity of opinion. Asthma is generally described as spasm of the circular muscles that surround the bronchial tubes, which, continued, leads to a paralysis of these muscles, and the consequent forced breathing brings on emphysema, which always accompanies heaves.

Heaves is usually associated with disorder of the digestion, due to bad food (particularly ascribed to clover hay). But the disease seems to be manifest principally in the rupture or running together of the air cells of the lungs. When examined after death, the lungs of a horse with heaves are paler than normal and of much less weight, as shown by floating them in water. The walls of the small bronchial tubes are thickened, the right side of the heart is enlarged and cavities dilated and the stomach is enlarged and walls stretched. The symptoms are easily recognized. When the breath is taken in it is about natural, but with heaves the horse partially expels the breath and follows it by a second expulsion, the action being largely due to a marked contraction of the abdomen, and only slightly from the breast. It is also described very aptly as a "double action of the flanks." When the animal is exerted a wheezing noise accompanies the breathing. A horse with heaves is sometimes "fixed" temporarily by horse traders so that most of the symptoms are suppressed. They take advantage of the fact that breathing is much easier when the stomach and intestines are empty, they

also resort to medicines that have a depressing effect. A "fixed" horse is tested by giving him a full drink of water then running him up hill or over rough ground. This brings out the characteristic breathing.

Treatment. After it is once firmly established no complete cure for heaves is known, but Security Heave Remedy is of the highest value when first apparent and it relieves all the distressing symptoms so effectively that it is able to keep a horse in condition for work. Combined with Security Stock Powder, which aids the digestion and invigorates the entire system, it is useful and reliable. With the use of Security Heave Remedy the animal must have the right feeding and careful use.

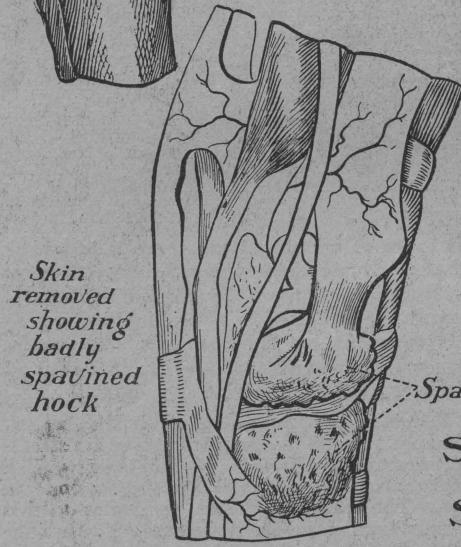
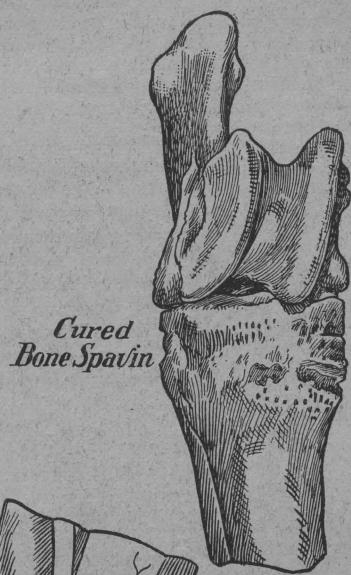
The animal must not be allowed to overload his stomach, or eat bulky, innutritious food, such as clover hay, straw, etc. The diet should be confined to food of the best quality and the smallest quantity that will maintain full strength and vigor. Hay, when fed, should be dampened and fed only once a day and the bedding should be such that the horse cannot eat it. The animal should never be worked immediately after a meal.

Chronic Cough. This is more a symptom than a disease. It may be the result of one of the acute diseases of the respiratory organs, such as pneumonia, bronchitis; also of influenza. It may also be a symptom of worms or chronic indigestion.

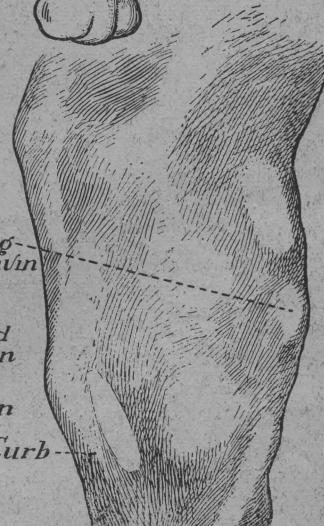
In cases of chronic cough there is no easier or better course than to try Security Distemper, Epizootic, Chronic Cough and Pink Eye Remedy. This is, as its name implies, a general treatment for the diseases of the respiratory organs, and it does a great deal of good wherever used regularly in the stable.

"Thumps", or Spasm of the Diaphragm. "Thumps" is not, as generally supposed, a disease of the heart. It is, in fact, what in men we call hiccoughs, although there is not the same throat noise. The treatment should be similar to that for congestion of the lungs, and in addition anti-spasmodics, such as 1 ounce of sulphuric ether in warm water as a drench.





SPAVIN & SPLINT



V. LAMENESS: ITS CAUSES AND TREATMENT

After A. LIAUTARD, M. D., V. M.,

Principal of the American Veterinary College, New York.

Revised in 1903 by JOHN R. MOHLER, A. M., V. M. D.

It is as a living, organized locomotive machine that gives the practical value of the horse to man. When the horse is lame from any cause, the machine is out of order and its use is wholly or partially lost. The business of the cow is to give milk; of the sheep, to yield wool; with either of these the organs of locomotion are of much less consequence than to the horse. The horse's direct service to man is practically confined to walking and running; upon how well he can do these two things depends whether he can be sold for many thousands of dollars or is only fit for the bone-yard.

These known facts are repeated solely to emphasize the importance of looking out for causes of lameness constantly and affording such help, medical and otherwise, and such opportunity for rest and recuperation that the slight ailments may not be allowed to develop into serious and incurable diseases.

This is the principal justification for the printing and dissemination broadcast of hundreds of thousands of copies of this little work by the Security Remedy Co., in order that the farmer and horse owner may be able to check and cure most of the serious ailments of his horse before they have become serious enough to warrant the expense of a veterinarian. The question is always a delicate one, when to call a doctor, whether to attend a human patient or a domestic animal. Some people call the doctor with foolish frequency, never relying upon their own common sense and experience, while others, also, wait until there is no longer any hope or opportunity for the help of the veterinarian. No infallible rule can be laid down. We make this suggestion only:

Read this work through from cover to cover several times. There is nothing in it that any intelligent man should not understand. Rely upon your own judgment; don't be afraid to try your common sense; good nursing and rest; a clean, well ventilated stable and regular, clean, wholesome food will do wonders. Get and keep on hand the entire line of Security Remedies. Have a medicine chest or cupboard for them in the stable—follow the directions—and they will save the cost of the entire list many times over. Even if their use is not called for, they serve as an insurance against loss by sickness and inability to work, just as insurance against fire loss is the duty of every prudent owner of property.

In walking or running there are two principal systems of organs, known in anatomical and physiological terminology as passive (the bones) and active (the muscles) organs of movement. The two are variously joined, the point of attachment appearing sometimes as an eminence, sometimes a depression, sometimes a border or an angle, or again a mere roughness, each perfectly fulfilling its purpose; while the necessary motion is provided for by the formation of the ends of the long bones into the requisite articulations, joints or hinges. Every motion is the product of the contraction of one or more of the muscles, which as it acts upon the bony levers produces one of the many motions

which together form locomotion (walking or running). Any interruption or derangement of these motions, from whatsoever cause, constitutes lameness.

Many of the muscles are united to the bones by direct contact of the fleshy fibers, but, in some instances, the body of the muscle is more or less gradually transformed into a cordy or membranous structure known as the tendon or sinew, and the attachment is made by very short fibrous threads through the medium of a long tendinous band, which, passing from a single one of several other of the bones, effects its object at a point far distant from its original attachment. In thus carrying its action from one bone to another, or from one region of a limb to another, these tendons must necessarily have smooth surfaces over which to glide, either upon the bones themselves, or formed at their articulations, and this need is supplied by the secretion of the synovial fluid, a yellowish, unctuous substance which is secreted in a peculiar tendinous synovial sac, which is one of the little understood, but most important organs of the animal. It is like the oil cup of a machine which supplies its own oil out of the sides of the cup. The importance of preserving these synovial sacs from injury, either from bruises or cuts, or from sprains or lacerations, cannot be too strongly stated. Nature does much to restore, but if in its efforts to correct one trouble nature is permitted to sap or destroy the operation of an important synovial sac, permanent lameness or stiffness is sure to result.

As the tendons, whether singly or in company with others, pass over the natural pulleys which form the various joints, such as the knee, the fetlock, etc., they are retained in place by strong fibrous bands or sheaths, which are in constant danger of injury. The ligament is usually a white, fibrous, inelastic tissue which keeps the joints or articulation of the bones in place. As previously stated wherever there is a sliding motion as where two bones work together or a tendon slides through its sheath or along the side of a bone or other tendon, the synovia, the vital lubricant, is provided. So long as the bones, the muscles and their tendons, the joints with their cartilages, their ligaments and their synovial structure; the nerves and their controlling influences which they exercise over all, with the blood vessels, which distribute to every part, however minute, the vitalizing fluid which sustains the whole organism in being and activity—so long as these preserve their normal conditions, locomotion is easy; their disturbance means lameness, whether the disturbance be slight so that it is commonly spoken of as a "little soreness," or so extreme that the animal goes on three legs.

Symptoms. Early symptoms, though difficult of diagnosis, are likely to be correspondingly valuable because they may enable one to ward off serious results. Never ignore any symptom. Extra caution costs nothing, even if wasted. Usually the discovery that a horse is becoming lame is comparatively easy to a careful observer. The changes of movement are apparent, but it is often difficult

to decide whether the lameness is in the near or off leg, or in the fore or hind part of the body. In fact, unless the matter is given considerable attention one is more likely to guess wrong than right upon seeing a horse "going lame". Much depends upon the gait with which the animal moves while under examination. The act of walking is unfavorable for accurate observation; it is while the animal is trotting that the investigation is made with the best chances of an intelligent decision. As an illustration, the weight of an animal may be placed at 1000 pounds, of which each leg, in a normal and healthy condition, supports, while at rest, 250 pounds. When one of the fore legs is in action, or in the air, and carrying no weight, its 250 pounds share of the weight must be sustained by the opposite foot, (the "opposite" depending upon the gait). If two legs are in action the same rule holds, and as the succession of movements continue, and the change from one leg to another or from one pair of legs to another proceeds, as may be required by the gait, there will result a smooth, even and equal balancing of active movements, shifting the weight with symmetrical precision. Watching the operation of a single leg in health, it will be noted with what ease it sustains its proper burden without hesitancy, shrinking or pain. The opposite leg does likewise, and each pair of legs matches the opposite pair, whether the act be walking, trotting or even galloping, all testifying orderly soundness and efficient service.

On the other hand, the action of the lame leg varies greatly from the normal, and so also does the sound leg modify the motion to supply the support which the lame leg shirks; particularly in the act of resting the foot upon the ground, as also the elevation and forward motion. The lame leg is elevated rapidly, moved forward carefully and returned to the ground with caution and hesitancy, touching the ground as lightly as possible; the sound leg rests longer on the ground, moves boldly and strikes promptly and forcibly.

To detect the location of lameness the observer should see the horse in motion, walking and also trotting, from before, from behind and from both sides. He will note that the horse lowers the body upon one extremity or the other and this can readily be detected by noting closely the motions of the head and of the hip. The head drops on the same side on which the mass of the body inclines, dropping toward the right when the lameness is in the left fore leg, and the hip dropping in posterior lameness, also on the sound leg. In other words, when the animal in trotting exhibits signs of irregularity of action, or lameness, if it is accompanied by nodding the head or depressing the hip on the right side at the time the feet of the right side strike the ground, then the horse is lame on the left side.

The next step is harder. It is not always successfully accomplished even by the skilled veterinarian. But careful attention will usually avail. Note first the manner in which the entire lame leg is moving, especially the various joints; examine minutely every part of the limb, observing its outlines, and testing the temperature and sensitiveness by the hand. Refrain from adopting any hasty conclusion, and, above all, remember that the foot, of all the organs of the horse, is the most liable to injury and lesion. Indeed, a lameness

which may appear to have its origin elsewhere is likely to find its true seat of trouble in the foot; even when a diseased condition is found elsewhere the investigation should be continued, subjecting the foot to the closest scrutiny; lest at some future day it will be found that the horse has been doctored for the wrong ailment, and an irreparable injury is done.

Diseases of the Bones. Avoiding the more technical discussions of this subject a few general observations will be of interest and value. The question no doubt will arise in the mind of the reader: Why should there be such diseases as splint, spavin and ringbone? And the equally natural question: What is the nature of these diseases which make more good horses go lame than almost all other causes aside from the diseases of the feet? One can understand why the foot should give trouble; it is subject to such varied opportunities for injury, but this does not seem true of splint, spavin or ringbone.

As a matter of fact it would seem that these three commonly known diseases are largely an effort in nature to correct injury done by lesions (or tearing of the tissue) or some external bruise or cut. The enveloping membrane of the bones is called periosteum. This becomes inflamed either from wounds or in sympathy with the inflammation of surrounding tissue and as a result there is deposited a bony growth, more or less diffuse, sometimes of irregular outline, and at others projecting distinctly from the surface from which it springs, as so commonly presented in spavin and ringbone.

Treatment. When by careful scrutiny the ailment has been located, a treatment must be resorted to at once, to prevent, if possible, any further deposit of the bony structure. It will be better to give at least some preliminary treatment even if the location of the lameness is in doubt, than to put off prompt efforts to ward off a serious blemish. The failure of prompt means to stop the establishment of the diseased process may result in softening, degeneration or necrosis, but more usually is followed by the formation of the bony growths below referred to in detail.

The use of Security Caustic Blister will ward off and cure incipient cases of this kind. Use it according to directions.

Splints. The splint is a bony enlargement on the cannon bone, between the knee or hock and the fetlock joint. It is found generally on the inside of the leg near the knee, and from this point down about two-thirds of the principal cannon bone; of variable size, usually discernable by the eye and the touch. A mistake is sometimes made in diagnosing as splint a button-like enlargement about the lower third of the cannon bone. Splints sometimes appear on the outside, and while commonly of the fore legs they are sometimes found both inside and outside of the hind legs. A pegged splint is a serious and permanent deformity which passes from the inside to the outside of the bone, on its posterior face, and in consequence of its interference with the play of the fibrous cord which passes behind it, becoming thus a source of irritation and permanent lameness.

Splint may continue to cause lameness for a time, gradually disappearing and returning as the result of hard driving, etc., although it is not to be considered more than a blemish in most cases.

The use of Security Caustic Blister is recommended for the cure of this disease in its inception and the removal of the resulting lameness.

Ringbones. Perhaps no one owning a horse, into whose hands this brief work will fall, is unacquainted with ringbone, if only as a name of a horse disease. The name is appropriate, as it is a bony growth which extends around the coronet, forming an osseous (bony) arch through which the back tendons obtain a passage. There are high, middle and low ringbones, the high ringbone forming a large bunch on the upper part and quite close to the fetlock joint; and the low is found around the upper border of the hoof, or perhaps on the extreme front or the very back of the coronet. Its discovery is very simple and certain. When on the front of the foot, even when not largely developed, it assumes the form of a diffused convex swelling. If situated on the lower part, it will form a thick ring, encircling that portion of the foot immediately above the hoof; when found on the back part, a small, sharp bony growth projecting sometimes on the inside and again on the outside of the coronet, may be the only manifestation. The horse commonly is lame when leaving the stable, the lameness disappearing when it gets warmed up, but returning with increased severity after cooling off from a long drive. The size of the bony formation does not control the lameness, a small exostosis frequently being more painful than a much larger one.

The preventive treatment consists in keeping colts well nourished and in trimming the hoof and in shoeing to proper balance of the foot, thus preventing abnormal strain on the ligaments. Even after the ringbone has developed, proper shoeing directed toward straightening the axis of the foot, may help to effect a cure. As long as inflammation of the envelope of the bone and the ligaments remains a sharp blister is of the highest value.

The use of Security Caustic Blister is particularly recommended.

See the announcement on another page.

Sidebones. On each side of the bone of the hoof—the coffin bone—there are normally two supplementary organs which are called the cartilages of the foot. They are soft and somewhat elastic, their use being evidently to assist in the expansion and contraction of the posterior part of the hoof. These organs tend to become bony through a process of disease, somewhat changing their shape and enlarging, and known as sidebones. These are situated on one or on both sides of the leg, bulging above the superior border of the hoof in the form of two hard bodies of ossified cartilage. This disease appears mostly in heavy draft horses and its severity depends more on the inflammation than the size of the ossification.

The Treatment. The purpose is to check the inflammation which is done by free use of cold bath, soaking the feet and, at a latter period, blister.

This is another place where Security Caustic Blister should be on hand and used promptly, after the feet have been cooled.

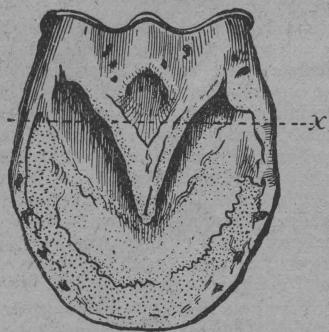
Spavin. Strictly speaking this should be known as bone spavin, to distinguish this form of disease from bog spavin, blood spavin and thoroughpin which are referred to under this heading on page 23. Bone spavin is the formation of a bony growth of the hock joint. The general impression

is that in a spavined hock the growth should be seated on the anterior or internal part of the joint, which is strictly correct; but an enlargement may appear on the upper side of the hock also, or possibly below the inner side of the lower extremity of the shank bone, forming a high spavin; or, on the outside of the hock, an outside or external spavin. There are, however, similar affections, so that diagnosis must be carefully made. But the hock may be "spavined" and apparently retain perfect form; without perceptible enlargement the animal may have an occult spavin, which is a union of the several bones of the joint.

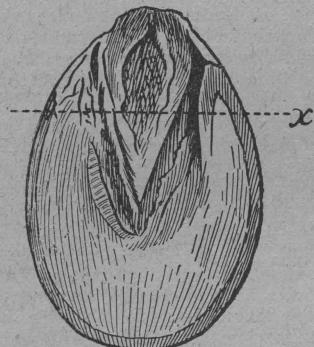
Periostitis of the bones of the hock joint, caused by a sprain which has torn a ligament and lacerated some of the fibers, is generally the immediate cause of spavin; it may be due to violent effort in jumping, galloping or trotting to which the horse is compelled; or it may be the extreme exertion in starting a heavy load, or an effort to recover his balance after a mis-step; or slipping on a smooth surface, or any form of strain which comes suddenly and violently upon the most complex joints of the horse's locomotion machinery. The tendency to contract spavin is regarded as hereditary.

Symptoms. Spavin grows slowly and insidiously. A common early sign of its presence is a peculiar posture assumed by the horse while standing. The lower part of the leg is carried inward, the heel of the shoe resting on the toe of the opposite foot. He is unwilling to move from side to side in his stall. When driven he travels stiffly, with a side-long gait between the shafts, and returning to the stable he assumes the aforementioned position. Some inflammation in the hock is soon noticeable and a close examination will undoubtedly reveal the existence of a bony enlargement which may be detected at the juncture of the hock and cannon bones, on the inside and a little to the front. The enlargement grows rapidly. Sometimes the enlargement appears on both hocks, two cases of spavin at the same time. An excellent test for spavin lameness consists in lifting the affected leg off the ground and holding the foot high, so as to flex all the joints. He is then instantly started off on a trot when the lameness is greatly intensified.

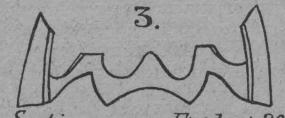
If bone spavin is attended to when its first symptoms are manifest, it is safe to say that its development can be arrested and a satisfactory cure effected. An instance: An early discovery of lameness has been made; that is, the existence of an acute inflammation of periostitis has been detected. The increased temperature of the parts has been observed, with the stiffened gait and the characteristic pose of the limb; now, what is to be done? Even with these comparatively doubtful symptoms—doubtful with the non-expert—we should direct our treatment to the hock in preference to any other joint, since of all the joints of the hind leg it is this which is most liable to be attacked, a natural result from the peculiarities of structure and function. And in answer to the query,—What is the first treatment indicated?—we answer, rest—emphatically, and as an essential condition, rest. Whether only threatened, suspected or positively diseased, the animal must be wholly released from labor and it must be no partial or temporary quiet for a few days. In all stages and conditions of the disease, whether the spavin is nothing more than a simple



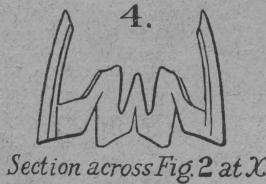
1. A Sound but Flat Foot



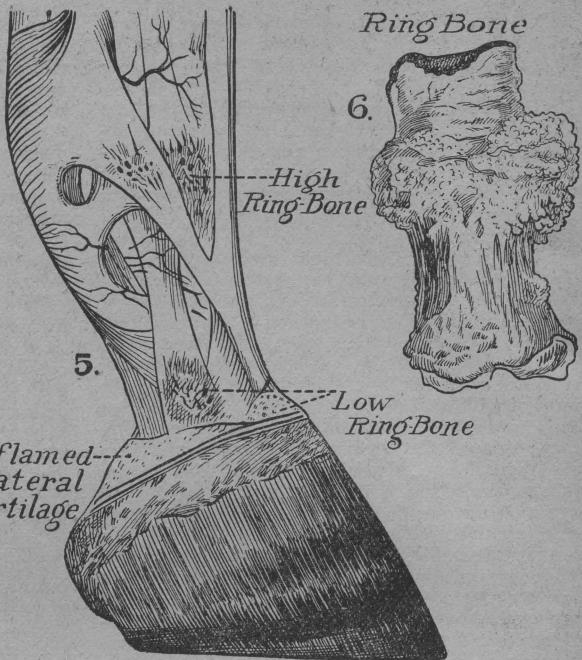
2. A Badly Contracted Foot



Section across Fig. 1 at X



Section across Fig. 2 at X



Inflamed lateral cartilage

Ring Bone

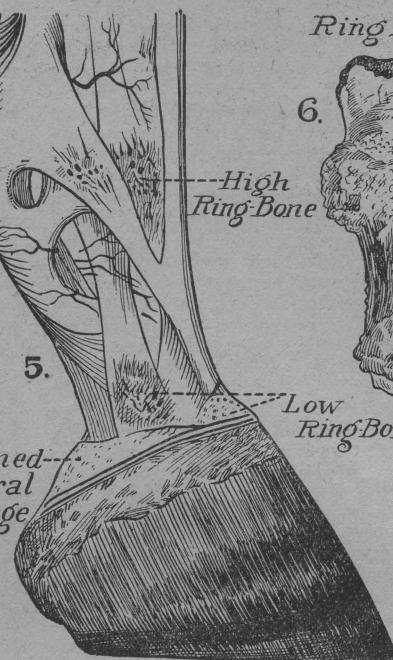
6.

High Ring Bone



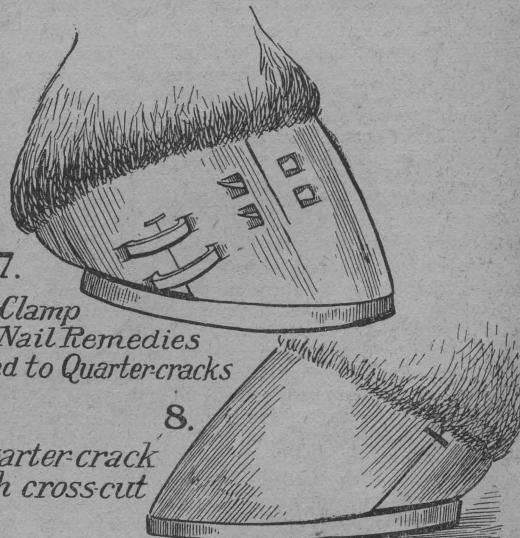
Low Ring Bone

5.

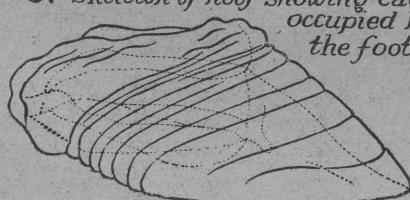


7.
The Clamp and Nail Remedies applied to Quartercracks

8.
Quarter crack with cross cut



9. Skeleton of hoof showing cavity occupied by the foot



10. Same foundered foot as shown in Fig. 9.



exostosis, or whether complicated by arthritis, there must be a total suspension of effort until the danger is over. A month's quiet is the least to be thought of.

Good results may also be expected from local applications. We prefer above all others, counter irritants, for the simple reason, among many others, that they tend by the promptness of their action to prevent the formation of the bony deposits. The lameness will often yield to blistering. If the owner of a "spavined" horse really succeeds in removing the lameness, he has accomplished all that he is justified in hoping for.

This is exactly the treatment advised by the manufacturer of Security Caustic Blister. The purpose of this treatment is to prevent the formation of the bony excrecence on the hock bones. This, with ample rest and the use of Security Stock Powder to keep the condition of the animal in perfect order during the long quiet, is the best advice to be offered. Even in cases where the bone has already formed the use of Security Caustic Blister is wonderful in relieving the lameness and making the horse fit for work.

DISEASES OF THE JOINTS.

Windgalls. A windgall is a slight swelling of the synovial sac at the posterior part of the fetlock joint. Another name is puff. Windgalls appear in the form of soft and symmetrical tumors of varying dimensions. They are more or less tense, according to the amount of secretion they contain. Usually they are painless and only cause lameness under certain conditions. When in their acute stage, and when the dropsical condition is not excessive, the inflammation may be checked by continuous cold water applications by means of a hose or the soaking tub during the day and at night by a moderately tight roller bandage. Later absorption may be promoted by the use of liniment. This treatment should subdue the inflammation, absorb the excess of secretion and finally cause the windgalls to disappear, if not returned to work too soon.

Security Caustic Blister, by regulation of the quantity used, may be made to serve as a slight and mild blister which is of great value in treatment of the windgalls.

Blood Spavin, Bog Spavin and Thoroughpin. The blood spavin is situated in front and to the inside of the hock and is merely a varicose or dilated condition of the saphena vein. It occurs directly over the point where the bog spavin is found, and has thus been frequently confused with the latter.

The complicated arrangement of the hock joint, and the powerful tendons which pass on the posterior part, are lubricated with the product of secretion from one tendinous synovial sac and several articular synovial sacs. A large articular sac contributes to the lubrication of the shank bone (the tibia) and one of the bones of the hock (the astragalus). The tendinous sac lies back of the articulation itself and extends upward and downward in the groove of that joint through which the flexor tendons slide. The dilations of this particular synovial sac is what is called bog spavin, the term thoroughpin being applied to the dilation of the tendinous capsule.

The bog spavin is a round, smooth, well-defined, fluctuating tumor, situated in front and a little inward of the hock. On pressure it disappears at this point to reappear on the outside and just behind the hock. If pressed to the front from the outside, it will appear on the inside of the hock. On its outer surface it presents a vein which is quite prominent, running from below upward, and it is to the excessive dilation of this blood vessel that the term blood spavin is applied.

The thoroughpin is found at the back and on top of the hock, in that part known as the "hollows", immediately behind the shank bone. It is round and smooth, but not so regularly formed as the bog spavin, and is most apparent when viewed from behind. The swelling is usually on both sides and a little in front of the "hamstring".

In their general characteristics, bog spavin and thoroughpins are similar to windgalls, their more serious importance being due to the more delicate portion of the anatomy, so that reference is made to Windgall. It is possible for bog spavin to cause lameness, and thus to cause a verdict of unsoundness in the horse.

The treatment demanded is prompt and complete rest, blistering and other care as prescribed for bone spavin.

Security Caustic Blister is a valuable remedy in the treatment of these diseases.

A VETERINARY MEDICINE CHEST

If you are a farmer---or if you own horses, cattle or any domestic animals---you will do well to have a little closet or covered shelf in your barn for all kinds of Veterinary Medicines. Each bottle and package should be plainly labeled, showing its contents and marked with the date it was purchased. If put away in this way there need be no waste. Moreover, when you want medicine you generally want it in a hurry, and you want it very badly. So that an assortment of the Security Remedy Company's remedies deserve to be classed as Veterinary Insurance---tending to insure against loss by sickness and death of any of your horses, cows, sheep, hogs and poultry---by keeping them healthy all the time. Put an assortment of Security Remedies in your Veterinary Medicine Chest.

What the People Say About Security Remedies

"I will tell you what your goods are doing for the horses and cattle of this locality. I mention this kind of stock only, because we have no other. Now for the horse. Before commencing to use your **Stock Powder** and **Gas Colic Cure** I lost on an average of one large draft horse each month, valued \$200, and that was my experience for six years. About four years ago I got your Stock Powder and Gas Colic Cure. Since that time I have lost one horse with colic and he had been sick all night and nearly torn the barn down before we found him. By using the Stock Powder as directed they do not get the Colic, and there are several outfits here nearly as large as ours that have had the same experience. The Gall Cure and Antiseptic Healer are the best in the world. That is about all of your goods that we use. You can use this if you wish and refer as many as you please to me and I will take great pleasure in answering their inquiries for I have lost many thousand of dollars worth of the best horses I could buy, and I know."

E. M. MOSCRIPT, Idaho Springs, Colo.

"Last year the Eclipse Livery Co. of Central City lost fifty-two head of horses by Colic. This year I have been selling them **Security Gas Colic Cure** by the dozen. In March they did not lose a horse. In April they lost one. None so far in May.

The above in spite of the fact that the usual number of horses have had Colic."

J. C. MARTIN, Black Hawk, Colo.

"I am proud to state I find your remedies invaluable to anyone who owns stock, and your **Colic Cure** is worth \$5.00 a bottle to have in the house as it is the same as that much of an insurance policy. It is a sure cure for Colic and I cheerfully recommend it."

JOHN SKILLMAN, Big Cabin, I. T.

"**Security Gas Colic Cure** is the best I have heard of. I have tried it on six cases and it has cured every time, so it is good."

W. W. TISDALE, Russell, Kan.

"I have used a sample box of **Security Gall Cure** and must confess it is the best I ever had or used. It will cure any kind of a sore on a horse. I had some mules with sore backs and shoulders and worked them every day and in a few days they were cured completely. Shall always keep it on hand and recommend it."

J. H. WARE, Churchill, Miss.

"I used your **Security Gall Cure** for my cow's sore teats. They were so sore I could hardly milk at all for her kicking, but Security Gall Cure healed them in twenty-four hours so that I sat down under her and milked with both hands. I can cheerfully recommend it."

F. J. MEANS, JR., Dearborn, Mo.

"I had occasion to use your **Gall Cure** which I promptly pronounced the best remedy for harness galls and kindred ailments that I have ever used.

I am something of a crank regarding horses and hereafter will not be without Security Gall Cure if I can get it."

E. B. BLOUSER, Carlinville, Ill.

"I used the sample box of **Security Gall Cure** that you sent me and found it to be the best I ever saw. I used it on a saddle horse for cinch sores and it healed them up and I rode him every day."

H. GORDON, Stone, O. T.

"I have tried your **Security Gall Cure** and would say it is all right. I have never before found one that would work well if you used the horse, but your Gall Cure works fine even if horse is used."

F. W. PAYEUR, Clyde, Kan.

"I bought one box of your **Security Gall Cure**. It was the best I ever saw. The box is entirely gone and I will want more as I cannot afford to be without it."

L. S. HILL, Pipestone, Minn.

"Some time ago I received a sample of your **Security Gall Cure**. It is the best I ever used and healed the galls right up. Please send me a dollar box."

LEO BARBER, Jennings, La.

"I used your **Security Gall Cure** on a horse that had a collar gall on the top of the neck that I supposed to be incurable. Now, in this short time, the sore is scarcely noticeable."

CHAS. O. HAVMER, Solomon, Kan.

"I tried a box of your **Gall Cure** and I find it to best I ever tried for sore shoulders on horses."

E. HOLLAND, Mohler, Idaho.

"**Worm Powder** just arrived in time to save us two fine brood sows, but not to save one. The day before the goods arrived we had a fine sow (with pigs six weeks old) take sick with the symptoms of hog cholera or worms, as you describe on page 8 of circular. Two days after two more sows, each having a fine litter of smaller pigs were taken sick with the same symptoms. One was so bad she lay stretched out on her side and could not help herself. We opened her mouth and threw a measureful of the **Worm Powder** on her tongue and in a half hour she was so much better that by rolling her up she could drink a slop with another dose of the powder, and in two hours she could stand alone. The next day both sows were able to walk around and in a week's time they were as well as ever.

You are at liberty to use my name any way you wish for it may help to save some hog raisers a loss as it has us."

W. D. VAN SLYKE & Co.,
Trinidad, Wash.

Some of the Thousands of Endorsements.

"Your Security Worm Powder for hogs saved sixty head for me. I had 114 of them when I noticed they were getting off their feed. Then they began to cough and a little later to get weak in the hind parts. They got worse all the time and soon began to die. I thought they had cholera but seeing your Worm Powder for hogs in the store one day I bought some and started giving it at once. Ten of them were so far gone that I couldn't feed them any, but of the rest I only lost six. Three days afterwards the pens were alive with worms, then I knew it was not cholera, but worms that killed my hogs. Hereafter I shall try it with a few hogs every month to see if they are getting bad again. The cost is nothing compared with the loss of even one animal and is the cheapest kind of insurance."

THE PRESTON FARMING CO.,
By C. W. Preston.

"Your Security Worm Powder for hogs is surely the best worm remedy on the market. I have given it a good trial as I had a bunch of shoats in bad shape. They all showed signs of weakness in the back and several were dragging their hind parts.

I have used Security Worm Powder for five weeks and have been well repaid as my hogs are all well and on their feet again."

R. R. STEVENS, Gardner, Ill.

"Last December I had a sow that had been dragging her hind parts for six or seven weeks. She could not stand when helped up. I bought a box of you Security Worm Powder and gave it according to directions. It did for her what all other remedies had failed to do. She is now up and able to go where she pleases, and I can hereby recommend your Worm Powder to all who may need anything in that line."

L. C. McCUBBIN, Zebra, Mo.

"I have used your Security Worm Powder and find it to be the best medicine for worms. I have tried it on a horse that I doctored for over a year for worms. They were as large as a lead pencil and about eight inches long, and he got sick every time he was used, but is all right now."

LON TRUNNELL, Coleman, Texas.

"I tried your Worm Powder for hogs and the results are magical. The hogs commenced to eat, their hair became smooth and they are now making a rapid gain. Your Worm Powder is all right for hogs that are wormy, hair rough and off feeding, when in an unthrifty condition. I expect to use more of it when occasion demands. I bought it of M. W. Martin, Cohoka, Missouri."

C. E. WASHBURN.

"Your Worm Powder has done wonders for us. I have raised shoats with it when they were so near dead that they could hardly stand and would not eat at all. We are feeding it to fifty-seven head at present."

C. H. BURGESS, Inavale, Neb.

"I have used your Antiseptic Healer for barb wire cuts and it sure does the work. I had a yearling colt that got cut in the left breast and leg and was so bad that the cut flesh dropped down and away from the bone. I used one 50 cent bottle of your Antiseptic Healer and made a complete cure, and can recommend it to anybody."

E. E. GILL, Peck, Idaho.

"A friend gave me half a bottle of your Security Antiseptic Healer and I used it on a mule that had been badly cut, with splendid results, and have sent to Spokane to get more of it."

J. D. LLOYD, Springdale, Wash.

"I consider your Security Antiseptic Healer the very best remedy I ever saw. It will heal all kinds of sores and stop flow of blood."

J. S. BURNETT, St. Paul, Kansas.

"I have been to Geo. Wainwarren's and bought some of your Calf Food. Have used it all the spring and can truly say I have never seen its equal. One man bought 100 pounds on my recommendation and others raised a number of calves on it, and another man came here and borrowed some of me this morning for trial."

A. E. MAYO, Windsor, N. Y.

"I tried your Calf Food on a calf I was feeding skim milk and he had scours for a month and was very near dead. Seeing ad I went and got the Calf Food. The first dose helped it. Now the hair looks good and the calf looks fine. I am sure your Calf Food saved the calf. I intend to continue using it and to recommend it."

F. C. TUCKER, Weston, Oregon.

"We used your Security Disinfectant Lice Killer in our plant. Last season we raised over five hundred fine chickens,—did not see a louse or mite. It is O. K.—the best we ever used."

VALLEY POULTRY YARDS, Fly Creek, N. Y.

"My chickens have entirely recovered from roup and canker, and I wish to state that your Roup Remedy is a positive cure for these troubles and I never want to be without it."

W. M. ERICKSON, Maple Plain, Minn.

"I purchased your Security Rheumatic Liniment from our druggists, Saunders & Co., for my wife to use on her ankles. They swell when she is on her feet and become very painful, and although we had used several other liniments, none of them have done the same amount of good as yours. It reduces the swelling and soreness and strengthens the joints."

JOHN E. TAWNEY, Cedar Bluffs, Neb.

"I have used Security Rheumatic Liniment and am much better than for seventeen years."

G. HIATT, Grafton, Cal.

Security Stock Powder

Is a Tonic and Conditioner, Health Giver and Feed Saver. It tones up the horses out of condition because it produces perfect digestion and assimilation so that the food given is converted into nutrient instead of going through the intestines whole and becoming barnyard waste.

It Saves Feed, for three quarts of grain, well digested, is equal to four or more which passes through or is not thoroughly assimilated into the system. Its cost is very little, for being so highly concentrated a small quantity is sufficient, in fact its use costs but 16c per month for a full-sized horse and it will save many times this value in grain.

It is a Feed Saver for all grain-fed animals, whether in or out of condition. Try it and you will be surprised at the good results obtained.

Put up in 25c, 50c and \$1.00 Packages, 25-lb. pails, 50-lb. tubs and 100-lb. barrels by the

SECURITY REMEDY CO.

Security Worm Powder

A horse with worms can never be at his best. That constant irritation which makes him rub his tail and turn up his lip, will run him down and make him unthrifty. He will not hold his flesh nor be able to do his work easily. He can't talk, but he can show you by many signs that something is bothering him, and when he rubs his tail, turns up his lip, has a scurfy, yellow mucus around the margin of the anus—sometimes has a voracious appetite and sometimes is off his feed entirely, sometimes is constipated and sometimes bowels very loose—then he is telling you that he has worms and that they are troubling him, and then, if he starts a dry hacking cough, he is telling you he needs immediate attention.

Security Worm Powder will soon make him all right.

Put up in 50c packages by

SECURITY REMEDY CO.

SECURITY REMEDY CO., Minneapolis, Minnesota

Security Heave Remedy

Heaves is a running together of the air cells. All horse owners can tell heaves at a glance, so we will not describe them particularly.

This disease needs immediate attention as soon as it appears, for in the early stages we can cure it—later it becomes chronic and incurable and then the only thing we can do is to give relief.

Security Heave Remedy will permanently cure the early stages, although even some of these are obstinate, generally owing to the fact that the owners continue to feed dusty hay, over-feed, allow the horse to continue catching cold or over-drive him soon after feeding, but we guarantee absolute cure in the early stages and sufficient relief in chronic cases so that an apparently useless horse can do his work.

Put up in 50c packages by

SECURITY REMEDY CO.

Security Colic Cure

Colic is like lightning, liable to strike anywhere, and is almost as fatal. More horses die each year from this disease than all others combined. It generally comes so suddenly that the animal is beyond hope before relief can be had, and in this disease above all others, we urge the advisability of keeping a remedy on hand at all times. A bottle of **Security Colic Cure** costs but one dollar and is the cheapest kind of insurance, for it practically insures all your horses against this deadly disease. Perhaps you have a thousand dollars worth of horses, and you can insure the whole lot against Colic by spending one dollar—for it is very seldom a stable has two cases of Colic at the same time, and when one bottle is used another should be got at once.

Better get a bottle the first trip to town. It may save you a \$200 horse.

Put up in \$1.00 bottles by

SECURITY REMEDY CO.

Security Antiseptic Healer

Is just what its name states. A healer that is antiseptic. We do not hesitate to say that it has no equal for healing all cuts and sores, from barb wire lacerations down to the smallest break in the skin. It will heal them quicker than any other remedy and will leave no scar if used soon after the cut occurs. Being antiseptic, no proud flesh will form, neither will flies or maggots bother a sore on which this remedy is used. It should be on every farm, for its use on a cut will stop bleeding almost at once, thus saving the strength and perhaps the life of a valuable animal.

Put up in 25c, 50c and \$1.00 bottles by

SECURITY REMEDY CO.

Security Gall Cure

A collar working up and down on a horse's sore shoulders gives him about the same feeling you have when your feet are sore and your boots chafe them at every step. A half-day's work tires you more than a full day's work would if you were not in pain. You can't eat enough to keep in flesh under these conditions—neither can you feed your horse enough grain; and what is the use of wasting feed when a 25c box of Security Gall Cure will take the soreness out the first day so he will be in peace, and heal his sore shoulders while using him all the time?

Put up in 25c, 50c and \$1.00 cans by

SECURITY REMEDY CO.

Security Rheumatic Liniment

For swellings, bruises, sprains and strains—a splendid remedy. It will quickly reduce inflammation and relieve soreness. Use it if your horse has been kicked, if he has a bunch forming, a strained tendon or a stiff joint. Bog spavins and sprung knees are benefited by thorough rubbing in of the liniment. Muscular pains yield readily to its use. Contracted muscles can be enlarged by vigorous rubbing and plentiful use of the liniment. It is so penetrating that it not only reaches trouble on the surface but those that are deep-seated. Use it whenever there is pain or swelling.

Put up in 25c, 50c and \$1.00 bottles by

SECURITY REMEDY CO.

Security Caustic Blister

Is effective in all cases where there is a foreign growth of bone which you wish removed without debilitating or scarring your horse. It is superior to cauterization because while it accomplishes more than the hot iron it does it without the intense pain and consequent loss of vitality, and it leaves no scar. Use it for bone spavin, ring-bone, splint and curb—also for bog spavin, thoroughpin, capped hock, elbow tumors and throat diseases needing outside treatment. Sweeney is very successfully treated with this blister. By rubbing it in well the skin becomes loose and flexible and the muscles recover their strength and fullness.

Put up in \$1.00 size bottles by

SECURITY REMEDY CO.

Security Hoof Remedy

Many otherwise good horses are rendered nearly useless because of bad feet. There are many kinds but Security Hoof Remedy will correct them all, whether it be quarter crack, shelliness, split hoof, contracted feet or what not. Packing and soaking in water is worse than useless for it is like soaking a leather boot in water. It will soften it as long as it is wet but it dries harder than before because you have soaked out the natural oil. Security Hoof Remedy will add oil, making the hoof soft, but tough. It will grow new hoofs and correct bad ones. It soaks in almost as soon as applied, and it goes to the right spot every time.

Put up in \$1.00 size cans by

SECURITY REMEDY CO.

Security Distemper, Chronic Cough, Cold and Pink Eye.... Cure

Pink Eye proper may never attack your stock. If it does, remember Security Pink Eye Cure should be used at once, but coughs, colds and distempers occur frequently, generally in the spring, but they are liable to come at any time. Few horses are shipped from one locality to another without contracting colds or distemper, which sometimes prove not only annoying but dangerous. Security Pink Eye and Distemper Cure is almost a sure cure for pink eye, distemper, chronic cough, colds and membranous diseases. It is easy to give and its use for any of the above named troubles will prove satisfactory.

Put up in \$1.00 size bottles by

SECURITY REMEDY CO.

SECURITY REMEDY CO., Minneapolis, Minnesota

SECURITY POULTRY POWDER

Egg Maker and Health Giver.

EGGS.

The chief profit of poultry is the eggs they lay. We have proven many times that this profit can be wonderfully increased by the use of **Security Poultry Powder**—a preparation that we absolutely guarantee will make hens lay when given ordinary care and feed.

Security Poultry Powder is not a food, so feed your poultry their ordinary rations, simply adding one measure-full **Security Poultry Powder** to feed for ten hens.

HEALTH.

Poultry are subject to many diseases but most of them come from neglect and can easily be avoided. Comfortable housing is the first essential for you can't expect profitable poultry if combs and feet are frozen; then feed comes in. All fowls require more or less diversified feed, but, besides feeding and housing, something else is required to keep your poultry toned up so they will have life and vigor and be able to throw off or ward off ailments, and nothing equals **Security Poultry Powder** for putting and keeping poultry in condition to prove profitable.

Try it at our expense, thus proving our statements. If not entirely satisfied, write us and we will refund your money in full.

Put up in 25c, 50c and \$1.00 packages and \$3.50 pails by

SECURITY REMEDY CO., Minneapolis.

SECURITY LICE POWDER

Keeps Lice Off Day and Night.

Without doubt the most difficult thing to overcome in profitable poultry raising is keeping your fowls free from lice. Unless this is done there will be no profit, for lousy fowls invariably show loss, and it could not well be otherwise for these pests, besides continually irritating the fowls, sap their strength and vitality. This goes on, not only in the day time, but all night.

The body lice are with them all the time and **Security Lice Powder** will make short work of these pests, but the spider lice or red mites as they are sometimes called, leave the fowls in the morning and lie hid in some dark corner of the chicken house all day, generally in the joinings of the roosts or in the nests. In order to reach all the crevices a liquid is necessary. This is done by our **Security Carbolized Disinfectant**, 50 parts water to one of disinfectant, which thoroughly cleanses the house. It will free the premises of every spider and louse, besides killing all bad odors so your chicken house will be sweet and clean, and be free from vermin.

Use **Security Lice Powder** on the poultry, and **Security Carbolized Disinfectant** for the poultry houses, and you will have won the fight.

Put up in 25c cans by

SECURITY REMEDY CO., Minneapolis.

SECURITY ROUP REMEDY

A Guaranteed Sure Cure.

Roup Cause.—Generally damp or unclean houses, but often exposure to rains or drafts or over-crowding—anything to cause a bad cold.

Roup Symptoms.—Watery discharge, becoming yellowish and offensive, swollen eyelids and head, sore mouth, stiff neck, difficult swallowing, sneezing and wheezing at night.

Lots of poultry die from roup without the owners knowing the real trouble. If yours have these symptoms, get a box of **Security Roup Remedy** and begin treatment at once.

Roup Treatment.—Put fowls on light grain ration and, if possible, green stuff—no corn. Feed lightly. Separate the sick from well fowls. Disinfect hen houses with **Security Carbolized Disinfectant** so as to kill all the spider lice, and if you find lice on the hens, use **Security Lice Powder**. Have quarters clean, light and dry. It is better to keep them shut up so they can get no water to drink except such as is mixed with **Security Roup Remedy**.

Roup Prevention.—When you first discover that your fowls have roup, separate the well from the sick and put one-half measure of the Remedy in a gallon of their drinking water. This will nearly always prevent the well ones from contracting the disease.

ROUP GUARANTEE.

If not satisfied, write us. We agree to refund your money at once.

Put up in 50c boxes by

SECURITY REMEDY CO., Minneapolis.

Security Carbolized Disinfectant

Makes a Perfect Liquid

LICE KILLER.

It is a sure protection from lice and all kinds of vermin. Is much cheaper than any other effective liquid preparation as it costs but 4 cents a gallon mixed ready for use.

Spider lice, those pests which you cannot reach by treating the hens, and yet which cause by far more loss than the body lice, are easily gotten rid of by using this preparation.

Use the **Carbolized Disinfectant** wherever vermin exists in hen houses, nests, roosts—in the dust bath and in every corner where a louse can hide. Use it not only for your poultry, but your stock.

It makes a perfect dip for sheep.

Hogs suffer nearly as much from lice as do poultry. Mix it with 30 parts water and rub into the hide with stiff brush. For lousy horses, mules, and cattle, use same as for hogs.

It is a fine disinfectant for all purposes, destroying bad odors and stench from mouldy cellars, stalls, cess pools, poultry houses, dog kennels, etc. It is soluble in either hot or cold water. Is a perfect purifier and the greatest known germicide, antiseptic and deodorizer. You can make no mistake in using **Security Carbolized Disinfectant** wherever there are vermin or bad odors, whether in the house or out-buildings.

Put up in 25c, 50c and \$1.00 cans by

SECURITY REMEDY CO., Minneapolis.

SECURITY STOCK POWDER

Except with wheat, fruit and truck farmers, cattle and hogs are relied upon as the money makers. The principal cost of raising them is the food they consume. If their food is economically converted into bone, tissue and fat you have a nice profit, providing disease does not appear, but if the food is only partly digested and assimilated into the system, there is liability of cost exceeding selling price—thus showing loss.

The time when corn sold for 10c and was used as fuel is past, never to return. Today cattle and hog food costs money and cannot be wasted by throwing it through the animals. Undigested food simply goes through, returning no benefit.

There is plenty of profit in stock raising today, but it must be conducted on more careful lines than in the past. Now-a-days feeding scrubs or even well-bred animals which are out of condition is losing money. The system must be in condition to convert food into fat with the least possi-

ble waste, and disease must be prevented by the use of tonics and conditioners. There are many of these on the market—some good and some no good. We claim that **Security Stock Powder** is ahead of all others as a tonic, conditioner, feed-saver and health-giver. It is not in any way a food, but is a medicinal preparation which, fed with regular grain rations, will cause not only perfect digestion but assimilation as well. It will put your stock in condition to ward off or throw off disease. Its use will increase quantity of milk from your milch cows, induce rapid growth in young stock and will shorten feeding time. In fact it will put your stock in perfectly healthy, normal condition, and its cost is only 8c per month for hogs and 16c for cattle.

Use it, and if you are not satisfied we agree to pay you your money back at once.

Put up in 25c, 50c and \$1.00 packages, 25-lb. pails, 50-lb. tubs and 100-lb. barrels by

SECURITY REMEDY CO., Minneapolis, Minn.

Security Calf Food

One of the greatest farm economies can be made by using **Security Calf Food** and skimmed milk instead of whole milk, in the raising of calves.

Skimmed milk has no selling value. The cream in whole milk is worth at the creamery from 1c to 2c per quart of milk. A calf will drink about 10 quarts of milk a day and at 1c per quart it is costing you 10c a day or \$3.00 per month to feed each calf, and this is estimating it very low. As against this cost of \$3.00 per month you have 10 quarts of skimmed milk at no selling value and two measures per day **Security Calf Food**, costing 1½c per day, making cost of feeding a calf a month on calf food and skimmed or separator milk 45c per month, instead of \$3.00 per month when fed whole milk.

You can raise your calves at 45c per month cost and show a very handsome profit. At \$3.00 per month they will show a heavy loss.

If you could make the same saving all over your farm you would have barrels of money in a short time, but here is one chance at least, and just in this the saving will be quite an item, probably at the least ten dollars on every calf, and a ten-dollar bill comes in mighty handy sometimes.

It doesn't make any difference whether you want to veal your calves or raise them. **Security Calf Food** and skimmed milk will do every bit as well as though you fed them whole milk or even let them run with the cow, and if raised on Calf Food they won't have scours when directions are followed, in fact it will cure scours.

Put up in 50c and \$1.00 packages, \$1.50 and \$3.00 pails by

SECURITY REMEDY CO.

Security Worm Powder

You have noticed that in many sections of the country swine diseases have become so common as to almost wipe out for the time being all hog raising over considerable areas. Among the many diseases commonly miscalled hog cholera, government experts have found that worms are one of the most general and most fatal. Few large herds are entirely free from this pest.

Their first effect on the hog is to make him unthrifty and, if they are permitted to multiply, they so irritate the intestines that the hog's vitality becomes impaired and he cannot resist disease or exposure.

The symptoms of worms in hogs are loss of appetite, coughing, general lassitude and partial or entire paralysis of hind parts. If these symptoms appear get a supply of **Security Worm Powder for Hogs** at once for you have little time in which to save them.

Many hogs have worms although not in sufficient quantity to seriously impair their health, but it is well to get rid of them, for every worm takes so much nourishment from the hog, besides irritating the intestines. They will thrive much better if worms are expelled.

Don't hesitate about using **Security Worm Powder**, thinking that perhaps worms are not causing the trouble and that you can save the cost of a package, but if your hogs have the symptoms we have described above, start using the powder at once, and at our risk, for these symptoms are such sure signs of worms that we are willing to repay you the cost in case no worms are expelled and if it should prove that your hogs are not wormy the test would have cost you nothing.

Put up in \$1.00 packages and 25-lb. pails by

SECURITY REMEDY CO.

SECURITY RHEUMATIC LINIMENT

This is the liniment that soaks in and crowds out pain; that searches out an ache whether of muscle, nerve, membrane or tissue and quickly replaces torture with peace. It is the friend of those who suffer from rheumatism, neuralgia, lame back, inflamed or stiff joints, soreness, bruises, swellings, strains or sprains. It is for the old folks and the young; for the invalid or the athlete, as it cures soreness and stiffness of joints and muscles whether caused by sickness or over-exertion, rendering them again supple and strong.

It is for mother's tired, aching back after a big washing, or for her neuralgia or touch of rheumatism, for the child's big black-and-blue bruise from its last fall, for the swelling and pain of a sprain or turned-over ankle; for the strained, tired hands after too long milking; for father after a hard day of pitching hay or loading grain when his every muscle aches and he is too tired to sleep; for grandmother's stiff and aching joints—in fact, wherever there is pain, soreness or swelling.

We receive letters every day from people who were suffering, thanking us for bringing this remedy to their notice. We would like you also to try it, and at our risk, and if you should find that in your case it did not fulfill our claims, we agree to return your money in full.

Put up in 25c, 50c and \$1.00 bottles by

SECURITY REMEDY CO.

DR. PERRY'S ECZEMA CURE

Affections of the skin are, in the main, local, having no connection with the general health. For all such diseases **Dr. Perry's Eczema Cure** is a complete or palliative remedy. Eczema, that most irritating of diseases, is quickly relieved as is also salt rheum, itch and erysipelas. Its effect is soothing, reducing inflammation and giving relief almost at once. It is excellent for burns and scalds. Eructions, pimples and blotches yield readily to its use, as do inflamed and old sores, boils and sore mouth.

It is a wonderful family remedy and should be in every household ready for use in the thousand and one cases which are not serious enough for the doctor, and which fall to the mother for treatment.

There is no other remedy its equal for all troubles of the skin. It is used and recommended by leading physicians. Druggists recommend and guarantee it, and our guarantee is as broad as can be made. We tell you to use it for any skin trouble, and, if you are not entirely satisfied, write us, enclosing outside label, stating from whom it was purchased and the amount paid, and we will return your money by first mail.

Put up in 25c jars by

SECURITY REMEDY CO.

SECURITY ANTISEPTIC HEALER

There is no place where so many cuts and wounds occur as on the farm. This is natural, for the farmer's work is rough work with horses and machinery. Scarcely a week passes but that some member of the family receives a wound of some sort. It may be that the axe caught your foot, or the hammer hit your thumb instead of the nail, or in screwing up a nut in the mowing machine or harvester the monkey wrench slipped, taking off a good piece of skin; perhaps it was the jack knife, or fixing up the barb wire fence—anyway there are plenty of wounds to cure and there is no remedy which will heal them as quickly as **Security Antiseptic Healer**. It will also do the same for the animals on the farm.

There are four distinct medicines in Antiseptic Healer. An oil, an acid, a gum and a balsam, each of them possessing great curative and cleansing properties. The first is softening; the second cleansing, also destroying germs, microbes and proud flesh; the third is healing, and the fourth sooth ing. When these are combined with other articles we use, it makes the most valuable remedy for cuts, wounds and sores the world has ever known.

You need this remedy and we need your patronage, so try a bottle and if it does not fulfill all our claims we agree to at once refund your money. You see we know its merit so are willing to take all risk.

Put up in 25c, 50c and \$1.00 bottles by

SECURITY REMEDY CO.

DR. PERRY'S ONE MINUTE PILE CURE

There are probably more people rendered uncomfortable by piles than any other disorder or disease, and at least ninety per cent of this suffering is unnecessary, as a short treatment with **Dr. Perry's Pile Cure** would cure them. If you happen to be one of those sufferers, read this pamphlet and get a jar of the pile cure, use it as directed and obtain speedy relief. You can do it at our risk as we guarantee a permanent cure for all cases of blind, bleeding, itching or ulcerated piles. While this guarantee is not made for obstinate chronic cases of protruding piles, this cure will give great relief to even these by reducing inflammation which in some cases will effect a permanent cure. Our guarantee to cure extends to any case curable by medicine, which is about ninety per cent of all cases. It will give relief to the other ten.

We guarantee that this cure contains no objectionable drugs such as cocaine, morphine, or any other form of opiates.

Put up in 50c jars by

SECURITY REMEDY CO.

List of Goods

Manufactured
... by ...

Security Remedy Co.

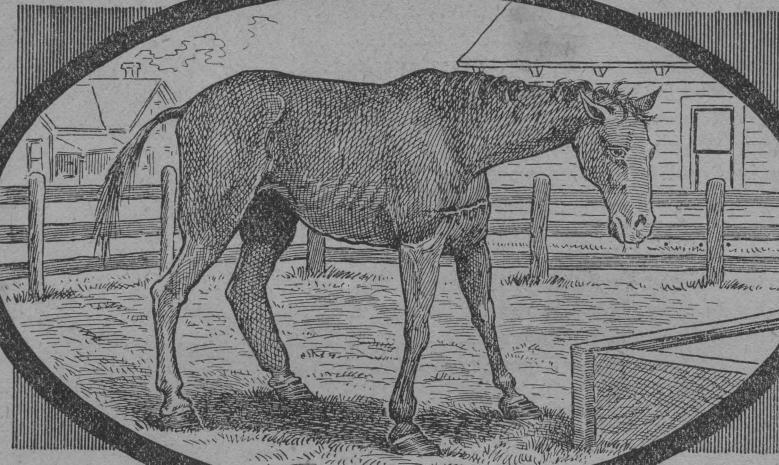
MINNEAPOLIS
MINN.

Security Gas Colic Cure, packages.....	\$1.00
Security Gall Cure, can .....	.25
Security Gall Cure, can .....	.50
Security Gall Cure, can	1.00
Security Worm Powder, for horses, packages.....	.50
Security Worm Powder, for hogs, packages.....	1.00
Security Worm Powder, for hogs, pails.....	4.50
Security Worm Powder, 100 lb. barrels.....	17.00
Security Poultry Powder, packages.....	.25
Security Poultry Powder, packages.....	.50
Security Poultry Powder, packages.....	1.00
Security Poultry Powder, 25 lb. pails.....	3.50
Security Poultry Powder, 50 lb. tubs.....	6.50
Security Poultry Powder, 100 lb. barrels.....	12.00
Security Calf Food, packages .....	.50
Security Calf Food, packages	1.00
Security Calf Food, 12 lb. pails	1.50
Security Calf Food, 25 lb. pails	3.00
Security Hoof Remedy, quart cans.....	1.00
Security Hoof Remedy, gallon cans.....	3.00
Security Hoof Remedy, five gallon cans.....	12.00
Security Lice Powder, packages .....	.25
Security Distemper and Pink Eye Cure, packages.....	1.00
Security Antiseptic Healer, packages .....	.25
Security Antiseptic Healer, packages .....	.50
Security Antiseptic Healer, packages	1.00
Security Caustic Blister, packages.....	1.00
Security Rheumatic Liniment, packages.....	.25
Security Rheumatic Liniment, packages.....	.50
Security Rheumatic Liniment, packages	1.00
Security Carbolized Disinfectant, can .....	.25
Security Carbolized Disinfectant, can .....	.50
Security Carbolized Disinfectant, can	1.00
Security Carbolized Disinfectant, one gallon can	2.75
Security Carbolized Disinfectant, five gallon can	10.00
Security Carbolized Disinfectant, ten gallon can	19.00
Security Sheep Dip, 1 gal., 5 gal., 10 gal., cans, 50 gal. bbls.,	
Security Heave Remedy, packages .....	.50
Security Stock Powder, packages .....	.25
Security Stock Powder, packages .....	.50
Security Stock Powder, packages	1.00
Security Stock Powder, 25 lb. pails	3.50
Security Stock Powder, 50 lb. tubs	6.50
Security Stock Powder, 100 lb. barrels	12.00
Security Roup Remedy, packages .....	.50
Dr. Perry's Eczema Cure, jars .....	.25
Dr. Perry's Pile Cure, jars .....	.50

SECURITY REMEDY CO.

MINNEAPOLIS

MINNESOTA



Gall Cure for his sore shoulders,
Hoof Remedy for his poor feet,
Liniment for his swollen legs,
Caustic Blister for his spavins,
Worm Powder for the worms,
Disinfectant for his lousy hide,
Distemper Cure for his cough,
Antiseptic Healer for barb wire cuts,
Heave Powder for his heaves,
Colic Cure when he needs it, and
Security Stock Powder for tonic
Would make a horse of this fellow.



Calf Food for raising calves,
Worm Powder and Stock Powder for the hogs,
Carbolized Disinfectant, Lice Powder,
Roup Remedy and Poultry Powder for poultry
Would fit you out completely.

